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The Mississippi Doctor

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DR. A. STREET
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Dr. Street was designated President-elect of the Mississippi State Medical Association at its recent meeting in Jackson. He is of a family prominent in the affairs of Mississippi for many years, his inheritance carrying a rich educational background. Dr. Street is one of the most thoroughly trained men of our association, possesses surgical knowledge and wisdom and medical integrity. He will prove an able leader as president.

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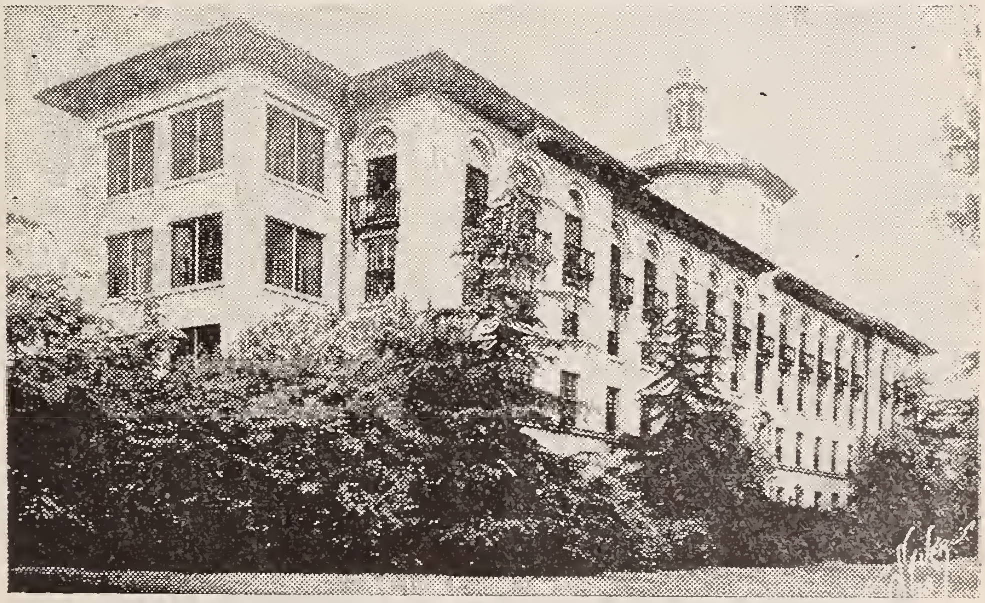

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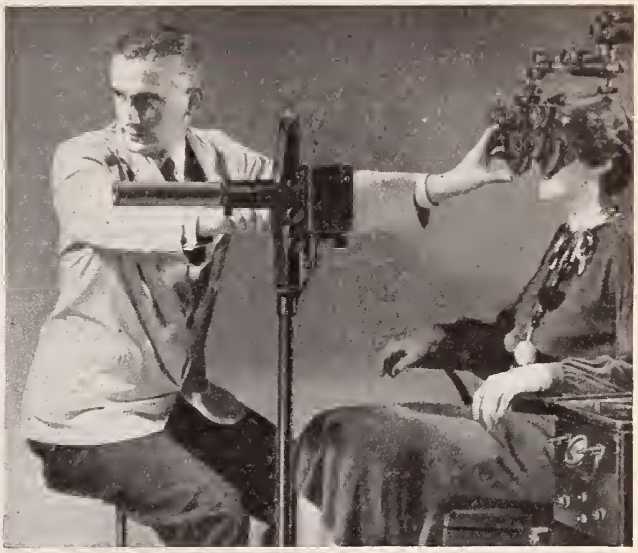

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Presidential Address—Mississippi State Medical Association

J. P. WALL, M.D., F.A.C.S.
JACKSON, MISS.

LADIES AND GENTLEMEN:

When the swarthy Moor, Othello, was being tried before the Venetian Senate for having won the love of the fair Desdemona, he prefaced his defense by saying:

". . . Ill shall I grace my cause
In speaking of myself,
But with your gracious permission,
I shall a rare and unvarnished tale deliver."

To do so is not so easy, for you will recall the story of Portia, in that great drama, THE MERCHANT OF VENICE, when distressed with the fear that some unwelcomed suitor might win her hand, according to the stipulations of the will of her eccentric father, by selecting the casket in which her portrait was placed, and discussing such a possibility with her little maid, Nerissa, in the effort to devise some plan by which Antonio might be directed to choose aright, said,

> "If to do were as easy as to know what were good to do, chapels had been churches and poor men's cottages, princes' palaces."

Progress in every field of endeavor is accomplished by discounting the critic and cynic and placing a premium upon individual effort, and while history is the summation of the efforts of individuals, events are the results of tireless, thinking workers.

The great English poet, Cowper, has drawn a skilful distinction:

"Knowledge and Wisdom for being one,
Have oft times no connection. Knowledge dwells
In heads replete with the thought of other men;
Wisdom in minds attuned to their own;
Knowledge is proud that he has learned so much,
Wisdom is humble that he knows no more."[1]

"We dwell too much in corners and consumed with the petty cares of bread-and-butter struggle for existence, unmindful that outside of our routine lie Elysian Fields, into which we may never have wandered, the tillage of which was not done by our hands, but the fruits of which we fully and freely enjoy."[2]

The Belgiam poet, Maeterlinck, has beautifully expressed it:

> "Our present stretches behind us in long perspective. It slumbers in the distance like a deserted city, shrouded in mist. A few peaks mark the boundary and soar predominant in the air; a few important acts stand out like towers, some with the light still upon them, and others, half-ruined, slowly decaying beneath the weight of oblivion."

Living in an age of boasted practicability and a much-vaunted efficiency, a time that accentuates achievement and disregards mere endeavor, man is very prone to overlook the historical and cultural value of medicine, and to lose sight of the altruistic phase that has characterized such an art from its very inception.

On all sides short cuts are being made and effortless solutions devised; quick wits are valued more highly than stout hearts; the telling advertisement of the charlatan and the all-but-convincing self-praise of the quack make a stronger appeal in some quarters than does the steady, unostentatious, but thoughtful pertinacity of the qualified practitioner of medicine.

Races and nations and groups of all kinds, history teaches, have been ruthlessly turned aside with scorn that the world, as a whole, might make progress. Each period of time steps upon the shoulders of its predecessor and benefits by the accomplishments of those who have gone before, and a study of the achievements of the present generation, coupled with those of its forebears, provide not only human interest, but an inspiration for further endeavor.

As history is made, so is tradition. Pride in any calling stimulates adherence to its teachings, and such an adherence to and emulation of its tenets produce another notable member and thus furthers the basis of pride in such a vocation.

Tradition is not a bad thing in itself, for it does, or should, represent the accumulated experience of past generations. It does, however, become a bad thing when men cease to apply to it respectful criticism, regarding it as either an adequate justification for continuing on a prescribed course or as a final reason for the destruction of an institution.

"What e'er the passion, knowledge, fame or pelf,
No one would change his neighbor with himself.
The learned is happy fond nature to explore,
The fool is happy that he knows no more;
The rich is happy in the plenty given,
The poor contents him with care of Heaven.
See the blind beggar dance, the cripple sing,
The sot a hero, the lunatic a king;
The starving chemist in his views,
Supremely blest, the poet in his muse.

See some strange comfort every state attend,
And pride bestowed upon all, a common friend,
See some fit pass on every age supply,
Hope travels thru nor quits us when we die.
Behold the child by Nature's kindly law
Pleased with a rattle, tickled with a straw;
Some livelier plaything gives youth delight,
A little louder, but as empty quite;
Scarfs, gaeters, gold amuse his riper stage,
And beads and prayer books are the toys of age,
Pleased with this bauble still, as that before,
Till tired he sleeps and life's poor play is o'er."[3]

That many a true word is spoken in jest is well known:

"God and doctor we alike adore,
But only when in danger, not before;
The danger o'er, both are alike requited,
God is forgotten and the Doctor is slighted."[4]

Surely such a sentiment is not that of the average man and woman, all of whom have either directly or indirectly come into that close relationship of doctor and patient, and rather would they subscribe to the thought of that rugged individualist, Samuel Johnson:

> "I believe every man has found in physicians great liberality and dignity of sentiment, a very prompt effusion of beneficence, and willingness to exert a lucrative art where there is no hope of lucre."[5]

A would-be wit has given the following definition:

> "Medicine may be defined as an art or science of furnishing frivilous excuses for a patient's illness and amusing him with remedies, good or bad, till Nature either cures or kills."

That the esteem of the physician is not confined to Christian lands is shown by the Brahmanic Proverb:

> "In illness the physician is a father, in convalescence, a friend and when health is restored, a guardian."

Friends, the doctor is a practitioner of medicine, which may be described as the healing art, evolved by natural processes—conceived in sympathy and born of necessity—at first an expression of magic, and then of prayer and finally an art, and only comparatively recently a science.

It is older than civilization, cultivated and honored in all ages, powerful for good or evil, progressive in its character, but still unsettled in some of its principles; remunerative in fame and fortune to its successful cultivators, and rich in the fruits of good conscience to its honest votaries. Encumbered, as it is, with difficulties, fallacy and doubt, it does constitute one of the learned arts. It is largely represented in every community. Its imperfections are lost sight of in the overwhelming importance of its objectives. The living look to it for succor and the dying call on it for relief.

To meet the approval of his associates is the cherished hope of the honest doctor. Of necessity his life is one that does not permit of his entering into the social and business activities that surround him; although his life is one of work, and many times one of privation, still the Law of Compensation exerts its beneficent sway, and his profession remains a most attractive one.

Dr. William Osler, later Sir William Osler, to the students of McGill University, said:

> "Some will tell you that the profession is underrated, unknown, underpaid, its members social drudges—I'd rather tell you of a profession, honored above all others, one which calling for the highest powers of mind, brings you into such a warm and personal contact with your fellowman that the heart and sympathy of

> the coldest nature must needs be enlarged thereby."

Recently a past-president of the American College of Surgeons, our distinguished guest of the evening, in addressing the in-coming class of fellows, made this estimate:

> "I know of no calling which offers such a wide diversity of intellectual pleasure as that of medicine, not alone in art and science, with an ever increasing range of developments, but in human behavior, psychology, sociology, economics and related activities. We follow a most useful calling, an interesting occupation filled with striking problems and one of the best because its only aim is the benefit of man."[6]

Robert Louis Stevenson, dying of tuberculosis, could find time to write of his physician:

> "There are men and classes of men who stand above the common herd, the soldier, the sailor, the shepherd, not infrequently; the artist, rarely; the physician, almost as a rule. He is the flower of our civilization and when the stage of man is done and only to be marvelled at in history, he will have shared as little as any in the defects of the period, and most nobly exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade. Discretion, tested by a hundred secrets; tact, tried by a thousand embarrassments, and what are more important, Herculean cheerfulness and courage."

Living in an age of accomplishment, bringing about an ever increasing unfolding of Nature's laws, a time wherein old ideas and techniques are being unceremoneously dethroned, men are apt to forget that the blessings they now enjoy had their beginnings, crude though they may seem, in the minds of men long since gathered to their fathers, yet the seed they sowed are bearing fruit in the work of countless hosts who are striving, ever planning for the betterment of the race.

Many centuries ago the prophet Joel gave voice to:

> "And it shall come to pass afterward, that I shall pour out My spirit upon all flesh; and your sons and your daughters shall prophesy; your old men shall dream dreams and your young men shall see visions."[7]

"They are the architects of greatness. Their vision lies within their souls, they never see the mirages of fact, but peer beyond the veils of mist and doubt and pierce the walls of unseen time.

"The world has accoladed them with jeer and sneer and gibe, for worlds are made of little men, who take but never give; who share but never spare; who cheer a grudge and grudge a cheer. Wherefore the paths of progress have been sobs of blood dropped from broken hearts. They dare uncharted seas for they are the makers of the charts. With only the cloth of courage at their masts, and with no compass save their dreams, they sail away, undaunted for the far blind shores.

"Their brains have wrought all human miracles. In lace of stone their spires stab the Old World's skies, and with crosses of gold kiss the sun. The belted wheel, the trail of steel, the churning screw are shuttles in the loom on which they weave their magic tapestries.

"A flash out of the night leaps leagues of snarling seas and cries to the shore for help, but for one man's dreams would never have come. Their wings of canvas beat the air and add the highway of the eagle to human paths. A god-hewn voice swells from the disc of glue and wells out through a throat of brass, caught sweet and whole to last beyond the maker of the song, because a dreamer dreampt."[8]

Yes, there have been dreamers whose visions have wrought. Among them have been men of medicine, and because of their dreams, yellow fever has been banished from most civilized lands; small-pox has become a rarity; typhoid fever is now regarded almost as a municipal crime; no longer does diphtheria take its awful toll; tuberculosis has dropped from its first place as "The Captain of the Men of Death" to fifth place in our mortality statistics; diabetes and pernicious anemia are under control; mental diseases are no longer regarded as incurable, but to a great extent are looked upon as preventable; maternity has lost the fear of child-bed fever; pneumonia is yielding to the magic of sulfapyridine and sera; malarial fever is becoming less and less prevalent; deficiency diseases are supplied by replacement therapy; social diseases have ceased to be tabooed in conversation, and consequently are becoming more and more under control; and in 1938 our country had the most favorable health record — the highest general level of health and lowest death rate ever known in the United States or for any comparable number of people anywhere in the world.

Because doctors have dreamed, the span of human life has grown from 35 years one hundred and fifty years ago to the ripe age of 65 years and bids fair to reach the Biblical "three score and ten years."

The real doctor is not puffed up with conceit, regarding his as the golden age of achievement, but rather does he look upon the present as a time to advance a noble heritage, remembering that every day does bring him in contact with something that belonged to yesterday, and that even today will soon become just another yesterday.

Romance and science in medicine are closely related. The romantic side of medicine showing how the medical profession profited from the laity, is aptly brought out by Oliver Wendell Holmes in the following quotation:

> "From a Jesuit, how to cure agues, from a friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairy maid how to prevent small-pox and from an old market woman how to catch the itch-insect."

In London there lived a great builder, who erected 154 churches and even designed the public buildings of Williamsburg, Virginia, which has only recently been restored by the public-spiritedness of Mr. John D. Rockefeller, Jr. Sir. Christopher Wren was the name of this architect and his masterpiece is St. Paul's Cathederal, the third largest church ever constructed. This man is interred in the crypt of this magnificent edifice, over his tomb there is inscribed no name, no date and no usual laudatory of his accomplishments, but in the Latin one can read:

> "Stranger, if you would read my epitaph, look around."

So it is with the doctor—his epitaph is his everyday service.

In this day when there is such unrest and an uncontrollable desire on the part of many to desert the country for the city, the young doctor is impressed with the opportunities the urban offers over the rural life—an easier practice of the so-called specialties and greater remuneration, he loses sight of the fact that some of the most outstanding developments in medicine had their inception in the small town or country.

Ephraim McDowell had the courage in a back-woodsy town of Kentucky to operate for the first time for an ovarian cyst, knowing that while he was operating the friends of Mrs. Todd Crawford were sitting on the fence with their trusty muzzle loading guns, ready to kill the doctor if the patient died; Crawford Long, in a small Georgia town, gave to suffering humanity the blessings of anaesthesia; Marian Simms, in his make-shift operating room in Alabama, working on slaves, perfected a technique that relieves women crippled by childbirth; Robert Koch, in the isolation of his laboratory, discovered the tubercle bacillus; von Behring, in a small town in Germany, perfected diphtheria antitoxin; Jenner, in an English hamlet, proved that small-pox could be prevented; Paul Ehrlich, while supposedly in attendance upon his lectures, was hiding in a neighbor's barn, working out the analine dyes as we know them today; John MacKenzie in the country side of Scotland, started studies, afterwards continued in the Royal Victoria Infirmary of Glasgow, that gave to medicine its real knowledge of heart disease; and in Washington, Mississippi, Dr. John Wesley Monette anticipated by many years the germ theory of Louis Pasteur, and long before the yellow fever commission of the United States made their epochal studies in Havana, showed that quarantine could and did prevent the spread of yellow fever.

Well does the doctor's life exemplify the first aphorism of the Father of Medicine, Hippocrates:

> "Life is short and the Art is long; the occasion is fleeting; experience is fallacious and judgment difficult."

The late President Coolidge in an address before the American Medical Association offered a pleasing estimate of the medical profession:

> "It is to the medical profession in its broadest sense, untrammelled by the contention of different schools, that the world may look for large contribution towards regeneration, physically, mentally and spiritually, when not force, but reason will hold universal sway. As human beings

> gain in individual perfection, so will the world gain in social perfection, and we may hope to come into that era of right living and right thinking, good will and peace in accordance with the teachings of the Great Physician."

There is a feeble and fatuitous word, "etiquette," by which the unthinking are wont to clothe the noble qualities of "ethics." The word "ethics" originally signified character. It deals philosophically with conditions, which effect the human family for good or ill. "Etiquette" codifies superficial relationships which govern men in the drawing room and in the club.

"Ethics" directs that there shall be honor among men, "etiquette" that they shall tread softly and wear evening clothes.

The good doctor does practice ethics, which in short, is honesty of thought and action toward himself, his patient and his confrere. It is his effort to approximate the teachings of "The Golden Rule."

In some quarters there is an ever-increasing intrusion of commercialism in the practice of medicine, and while no true doctor is practicing his profession for the sole purpose of making money, yet

> "Gold, yes a man must have his wages,
> It has been so thru all the ages.
> A man must also have his hire,
> To set his table and feed his fire.
> And yet his wages, however much,
> Is never quite enough to touch
> His weary heart with healing.
> He must come home somehow feeling
> Not with this is man paid.
> But if we can come home tonight
> And know that we did the right,
> And made the world that never knew it,
> A little better passing thru it.
> Can know that we caused a life to smile,
> Or lightened someone's load a while,
> That something that we have made or done
> Has brought delight to anyone,
> Yes, know that we have served our fellowman,
> Then are we paid, but not till then."[13]

Oliver Goldsmith, who began his early manhood as a medical student, when writing of the rugged honesty of the peasantry, penned lines that are just as apropos of the medical profession:

> "Ill fares the land to hastening ills a prey,
> Where wealth accumulates and men decay;
> Princes and lords may flourish and fade
> A breath can make them as a breath hath made,
> But a bold peasantry, their country's pride.
> When once destroyed can never be supplied."[14]

Dr. Walter E. Vest, the immediate past-president of the Southern Medical Association, has given this inspiring summation of the doctor's life, as being

> ". . . . . idealistic and altruistic rather than selfish and acquisitive in that it exalts service above personal gain and affords inspiration to its membership."[15]

The doctor's life is many times sacrificial and at times calls for real martyrdom to duty.

> "The prizes the world awards for such sacrifice and martyrdom are not great. The public has not yet learned to appreciate the type of courage that such men display. The investigative spirit that drives them is little understood by the average man. Indeed few appreciate the type of mind that caused physicians to suck infectuous membranes from the throats of children strangling from diphtheria; that caused hundreds of physicians to expose themselves to small-pox, to plague, influenza, in their devotion to duty.
>
> "Such martyrs are merely living up to the tradition of their calling established thousands of years ago."[16]

Well aware is the doctor that his ilfe is one of service, that in unexpected places and out-of-the-way of ordinary life opportunities come, and the admonition of Mordecai to his kinswoman, Queen Esther, may be aptly be applied to him:

> "Who knoweth whether thou are come to the kingdom for such a time as this?"[17]

Posthumous glory soon sinks into forgetfulness, yet the names of the illustrious men and women, who have made this old world a better place in which to live, from the day life makes its noisy entry under the sacred pubic arch till its exit to the eternal Hereafter, will live long after they have dropped into the tongueless silence of a dreamless sleep.

The doctor must progress in his calling.

Mr. Charles Evans Hughes, the distinguished Chief Justice of the United States Supreme Court, in a presidential address before the American Bar Association, said:

> "It is a God-given instinct to search for truth and nothing but truth will ever satisfy our yearnings. There are conflicts in truth. To learn to know is the way of life and faith only serves to honor the quest."[9]

Many people have an erroneous idea that the doctor is a genius and therefore does things easily, but to quote that great Chauvanistic Irishman, George Bernard Shaw:

> "A genius is a person, who seeing further and probing deeper than other people, has a different set of ethical valuations from others, and has energy enough to give effect to this extra vision and its valuations in whatever manner best suits his or her talents."[10]

There is something about medicine that defies descriptive power of mere words. There is in the doctor that ephemeral, intangible and altruistic something that causes him to do his very best. This summons to duty knows no latitude or longitude. Be it in the cold and bleak wilds of Labrador or New Foundland, there is a Sir Wilfred Grenfield to minister, with no hope of monetary reward; in the darkness and heat of the African jungle, there is a David Livingston, giving of himself that others may live; among the lepers of the Pacific Islands, the devoted priest-physicians ostracising themselves that they may serve a shunned people; in heathen lands, medical missionaries devoting their lives to lighten the burden of illness among benighted people, who necessarily must suffer more were it not for these unselfish men and women who labor among them. In civilized lands it may be in the home of the rich where haughtiness parades in its arrogance, or in the hovel, where poverty stalks in all of its wretchedness, the doctor goes, urged on by that inner sense of "duty" and his recompense comes from seeing a body wracked with pain become eased, a broken body restored to usefulness, and when the spark of life must fade, make its dimming easier for the soul that must meet its God.

To the Doctor:

> "Every mission constitutes a pledge. Every doctor is bound to consecrate his every faculty to its fulfillment. He will devise his rule of action from his profound conviction of duty."[11]

"Far from the crowd's ignoble strife,
Their sober wishes never learned to stray,
Along the cool sequestered vale of life,
They kept the noiseless tenor of their way."[18]

In the city of Rome, in the church of St. Peter in Chains, there is a heroic statue of Moses, the work of that master-craftsman, Michael Angelo. When this wonderful piece of art was completed and the friends of the sculptor had gathered to view it at its unveiling, all were greatly pleased with lifelike qualities of the piece of stone carved into a form that expressed the attributes of life, and one of the company exclaimed:

> "How did you carve such life out of marble?," whereupon the great artist replied: "I did not carve it out of marble, it was already in the marble, I only cut the extraneous marble away from it."

So, friends, it is with the doctor, his opportunity is here, and it is for him to carve out of the trials and tribulations that encompass him to destiny, not for himself, but for suffering humanity, and in so doing leave works that will bless humanity and an art that will endure.

"What makes a city great and strong?
Not architecture's graceful strength,
Nor factories' extended length,
But men who see the civic world,
And give their lives to make it right,
And turn its darkness into light.

What makes a city full of power?
Not wealth's display, nor titled fame,
Nor fashion's loudly boasted claim,
But women, rich in virtue's dower,
Whose homes, tho humble, still are great,
Because of services of the state.

What makes a city men can love?
Not things that charm the outward sense,
Nor gross display of opulence,
But right which wrong cannot remove,
And truth, which faces civic fraud,
And smites it in the name of God.

Such is the city that shall stand,
A light upon the nation's hill,

A voice that evil cannot still,
A source of blessing to all the land,
Its strength, not a brick, nor stone, nor word,
But justice, love and brotherhood."[19]

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The Use of Anesthesia in Obstetrics with Special Reference to the Use of Local Anesthesia*

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ANESTHESIA to allay the pain and suffering in parturition has been used as long as women have had labor pains, and men have known the sedative effect of drugs. This knowledge dates back to the dawn of history, and yet throughout the ages some deterrent factor has prevented the general adoption of these drugs, and women and men have agreed that the price paid if complete relief is to be obtained is too great. As a result most labors have been conducted with a minimum of sedation and this is given more to secure rest and replenish strength than to mitigate pain. Since the discovery of ether and chloroform and nitros oxide in the middle of the last century these drugs have been used in general surgical work and in the second stage of labor and for operative deliveries, in nearly all cases.

There is a fundamental difference in anesthesia as applied to general surgery or gynecology and that used in obstetrics which is usually overlooked. In the former we are concerned only with the relief of pain caused by the intervention while we supply the force which takes out the appendix or removes a gall or kidney stone. In obstetrics, on the other hand, during labor we must attempt to eliminate pain and at the same time keep the physiological process of labor going normally.

Our conception of the physiology of normal labor is as follows:

The uterus is a hollow organ composed of smooth muscle innervated largely through the pelvic sympathetic ganglia. Like the gall bladder, ureter, and intestine, if it contains a foreign body its tendency is to expel it. Under the conditions of normal pregnancy this tendency is inhibited by the action of progestin until the fetus has reached full term. As pregnancy advances the increased force and frequency of the Braxton Hicks contractions testify to the increased irritability of the uterus. As the lower uterine segment is formed the head enters the pelvis and increased intrauterine tension irritates the pelvic sympathetic ganglia. Impulses are thus set up which go to the posterior lobe of the hypophysis, which in turn excretes pituitrin into the blood stream which causes the uterus to contract. This leads to further stimulation followed by contractions until the resistances have been overcome and the uterus empties itself. Since, therefore, the contractions depend on irritation and anesthesia reduces irritability, it follows that anesthesia will inhibit or stop labor, depending on the amount and kind of anesthetic used. It was soon discovered that ether, chloroform and gas could not be used successfully in the first stage of labor, without stopping or unduly prolonging labor. It was also found that when labor had advanced to the second stage and very powerful stimulation resulted from each labor pain that the contractions would continue in good measure even during the administration of a considerable amount of anesthetic. This led to the routine use of these agents at this stage of labor and has robbed labor of its severest pain without appreciably prolonging it or jeopardizing the baby.

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The other factor to be considered in connection with the administration of an anesthetic to a woman in labor is its effect on the baby. All drugs as yet used for this purpose have been found to go through the placenta and to affect the baby even more than they affect the mother. Again, however, there is a fundamental difference between the mother and baby to be considered in giving an anesthetic.

The mother is in most cases a normal adult whose fundamental life processes, such as respiration, circulation and nutrition are proceeding in an entirely normal manner at the time the anesthetic is started. The fetus, on the other hand, is quite different. During the first stage there is in many cases a moderate cerebral compression and some interference with circulation and blood oxygenation due to the uterine contractions. These unfavorable circumstances are increased in the second stage of labor, and still further increased if a complicated labor is prolonged, and necessitates operative intervention. At the time of birth the baby has to undergo a profound physiological change from intrauterine to extrauterine existence. The lung alveoli must dilate, the foramen ovale close, the ductus arteriosus ceases to function and the beat regulating mechanism must start to function for the first time. All these changes must go on in the presence of a certain amount of shock occasioned by the effect of the compression of the head by the forces of labor.

In a rather large percentage of cases this shock is sufficient to cause concern to the obstetrician for the safety of the baby. It is true that in most cases the skillful application of appropriate measures will counteract these adverse conditions and the baby will survive. However, if we add to these hazards the depressing effect of anesthetic drugs we may fail to resuscitate a baby that would otherwise have survived.

Twilight Sleep and the Barbiturates

Practically all forms of analgesia given to the mother in the first stage of labor necessitate a more frequent use of forceps or other artificial intervention. This is partly due to the decrease in the strength of the uterine contractions and partly to the fact that the drugged woman is so unruly and un-co-operaive that a sterile field is impossible to maintain and the accessory muscles will not be used to help in the expulsion of the fetus. For these reasons in many institutions where this type of anesthesia is used, forceps are applied routinely in the second stage. No matter how skilful the attendant and how favorable the surroundings, the danger to the baby is measurably increased. If this is true of skilled obstetricians in well equipped institutions with plenty of trained help in observing and protecting the patient throughout the labor, the dangers are so greatly magnified as to be prohibitive when these methods are used in the home or under limited supervision in the hospital.

For these reasons we have taught the use of ether inhalations in the second stage of labor to the stage of obstetrical analgesia in normal cases and deepen this to surgical anesthesia for operative deliveries. Nitrous oxide can also be used safely in the same way, but is usually not so available to the general practitioner. Ethylene and cyclopropane have the explosive hazard which prohibits their use in all but especially prepared delivery rooms and administered by trained anesthetists.

Anesthesia in Cesarean Section

When in a given case Cesarean section has been decided upon as the best method for delivery, the question of anesthesia is the next important subject to be considered. Where no special factor has to be considered in connection with the case we usually advise to obtain maximum relaxation if necessary. If a general anesthetic is contraindicated for any reason we prefer a local anesthetic to spinal anesthesia. The latter is not used because of the inherent danger of collapse, cord injury and subsequent paralysis. We feel that the very cases in which we would want to use it are the ones in which the most danger would have to be run, such as eclampsia, heart lesions, tuberculosis, etc.

The use of local anesthesia in Cesarean section is not new. We feel that it is not the anesthetic of choice in uncomplicated cases, but may well be the difference between success and failure in certain complicated ones. We recognize the fact that the whole respiratory apparatus is embarrassed by the pressure made by the full term pregnant uterus. This is increased if the uterus is overdistended by a big baby, hydramnios or multiple pregnancy. The Trendelenburg position, while essential for good exposure especially when the low cervical operation is done, increases the pulmonary compression. Added to this mechanical compression of the lower lobes of the lungs, the congestion which may arise as the result of pulmonary edema due to cardiac disease or pre-eclamptic toxemia, it would seem that the superimposition of any inhalant anesthetic might be open to serious question. Because morphine, or any of the depressant drugs that are effective, may also predispose to atelectasis in the mother, which increases the danger of post-operative pneumonia, it is our custom to omit all basal anesthetic drugs before Cesarean section and to depend entirely on the local infiltration until after the baby is born, at which time morphine, one-fourth grain, is given hypodermically. The repair of the abdominal wall under these conditions is practically painless.

The technique of injection is important if the best results are to be obtained. We use a 20 cc. Luer lock syringe with 22 gauge needles. The injections are started subcutaneously near the umbilicus, the skin being infiltrated on both sides of the mid-line from above downward towards the mons veneris. It will be found that the latter area cannot be rendered free from pain by any reasonable amount of solution. We use about 30 cc. in this injection and proceed with the skin incision without delay. The incision is made through skin and subcutaneous fat to the fascia which is exposed for the full strength of the incision. The rectus sheath on both sides of the mid-line is injected by a series of 2 to 3 cc. injections near the mid-line on both sides. This requires about 30 cc. more of the solution. The fascial sheath on one side is opened for the full length of the incision and the rectus muscle is detached from the mid-line by sharp dissection with the scissors. The peritoneum is next injected the full length of the incision by a series of wheals. As a rule remarkably little capillary bleeding is encountered. The peritoneum is then opened and the mechanical retractor inserted into the wound very gently. It is carefully spread to the limit of comfortable tolerance by the patient, and the bladder is held back by an assistant using Jackson retractor instead of the anterior blade of the mechanical retractor. The uterovesical fold of the peritoneum is picked up by a tissue forceps and the loose tissue between the bladder and lower uterine segment is infiltrated from side to side and then incised. The bladder is then pushed downwards and the lower uterine segment opened in the mid-line. So far there has been little or no pain to the patient. Lifting the baby out of the uterus is usually accompanied by some pain, but it is soon over and the closure of the uterus and abdominal wall is comparatively painless. The uterus is left in the abdomen for closure and the cut edges of the uterine wound are held by Allis forceps during the placing of the first row of running sutures. Where it is desirable to sterilize the woman, the fundus is grasped with a tenaculum after closure of the uterine wound and both broad ligaments are infiltrated near the uterine cornua with about 10 cc. of solution on each side. The tubes are pulled up and a ligature is placed around the isthmic portion about one inch from the uterus. This portion of the tube is then excised including a small segment of the interstitial part of the tube and the wound in the uterus closed. The abdominal wall is closed in layers.

Porro Cesarean section may be performed in infected cases using the same technique as in the classical section until the baby has been removed from the uterus. At this point the placenta is not removed but the uterus is raised up and both broad ligaments are infiltrated, particular attention being paid to the infundibulo pelvic ligaments and the round ligaments. The uterovesical fold is also infiltrated, incised and pushed downward with the bladder. Clamps are placed on both broad ligaments and the uterus is excised above the cervix. Additional infiltration at the base of the broad ligaments may be used, but is rarely necessary. The round and infundibulo pelvic ligaments are sewed to the stump of the cervix and the whole covered by bladder flap.

Forceps Delivery

Local anesthesia may be used either alone or combined with other forms of anesthesia. When low forceps or outlet forceps are contemplated, a simple perineal nerve block and infiltration is used immediately before the application of the forceps after a mediolateral episiotomy. The forceps are easily applied and locked and traction plus some rotation can be used with no more pain than would be produced than in a normal second stage labor and often much less. The amount of force necessary to bring about delivery is very small since the patient is awake and bears down with her pains. This co-operation is very helpful since it lessens the amount of traction necessary and this minimizes the compression of the head, thus reducing the danger of fetal cerebral injury or asphyxia.

When it becomes necessary to apply midforceps, local anesthesia is of particular value. Any experienced obstetrician knows how frequently the head is found to be much higher after the patient is set up for delivery and has a general anesthesia even if not deeply anesthetized. A head that previously had advanced to the perineum may retreat up to the spine or even higher. With the local anesthesia the perineum may be stretched moderately manually and episiotomy performed. The half hand may be introduced into the birth canal if necessary to study the position of the head, its advance during contractions, the degree of moulding and the amount of caput present. After a correct diagnosis is made and the forceps prepared for insertion, the first blade is applied as the head advances with the beginning of uterine contraction, and the second blade is placed before the head recedes. In this way advantage is taken of the full amount of descent and internal rotation before any artificial force is applied. We then make gentle traction with each pain, and at the same time a very moderate amount of obstetrical anesthesia, either gas or ether, is administered. The patient is encouraged to bear down with the pains and allowed to rest between pains. By this technique we have come to look on midforceps as a rather simple undertaking when the first stage is complete and the mother is not too tired to co-operate, or the disproportion between head and pelvis not too great. Furthermore, the decision to deliver a given case by forceps may only be arrived at after many hours of labor and when the mother and baby are very tired. Putting such a patient under deep narcosis often sends the pulse rate up and the blood pressure down even before the forceps have been applied. Again too often the patient has not been prepared for the administration of general anesthesia when the emergency calling for the forceps delivery arises. Most careful anesthetists lay great stress on pre-operative preparation since they know that vomiting and the aspiration of mucous may seriously jeopardize the patient.

Craniotomy

In no complication in obstetrics is local anesthesia of greater value than in cases in which craniotomy is indicated. In these cases often a series of obstetrical mistakes have led up to the final picture of a dead baby, an infected and exhausted mother and a tired and discouraged obstetrician. Frequently the cervix has failed to dilate completely the head at mid-station, the woman has had a chill and the temperature and pulse are elevated. Under these circumstances we block the perineum and dilate it manually. We then cut the cervix at ten, two and six o'clock for about a centimeter if necessary to obtain complete dilatation. We then perforate the head and allow the patient to have more pains. Often the baby will start to advance very satisfactorily. If not, the cranioclast can be applied and traction made with each pain. Later a clidotomy may be added if the shoulders are big. Episiotomy is usually done.

Ectopic Pregnancy

Another important use of local anesthesia in obstetrical practice is in patients with ruptured ectopic pregnancy. It frequently happens that these patients are seriously devitalized by shock and hemorrhage at the time they present themselves for treatment. Often the fear of the depressing effect of a general anesthetic administered to such a patient causes the surgeon to defer operation hoping for more favorable conditions. We believe it to be axiomatic to operate in ruptured ectopic pregnancies as soon as the diagnosis is established, and the patient can be properly prepared for operation. We likewise believe that speed in reaching the bleeding point and clamping it together with the least possible general depression and shock is most desirable. To this end we have employed local anesthesia alone or combined with a basal anesthetic or supplemented by a small amount of ethylene (if available) to be the anesthetic of choice.

When the abdominal route is chosen the injections are made as described for Cesarean section or other abdominal operation, infiltrating skin, rectus muscle sheaths and peritoneum separately. About sixty to seventy-five cc. of one per cent novocaine is used with four drops of adrenaline to the ounce.

The opening of the peritoneal cavity may result in a gush of free blood and some clots. Laparotomy pads may be gently placed to force back the intestines. One reaches down behind the symphysis and locates the fundus, grasps it with a tenaculum and lifts up, feeling on each side for the thickened tube and ovary. The top of each broad ligament is infiltrated after which the mesosalpinx on the side of the ectopic is clamped. The tube is excised, the mucosalpinx tied off and the clots removed. This may give rise to some pain because in those cases in which the rupture has been present for a few days there may be considerable peritoneal tenderness due to the irritation of the blood. However, the main part of the blood clot can be removed by very little additional irritation and it helps to prevent infection from occurring in the blood clots.

An even safer procedure, especially in multiparae, in the desperate cases is to approach the ectopic pregnancy by the vaginal route. The perineum is infiltrated as was described for obstetrical cases. The cervix is brought down and an inverted T incision made in the anterior vaginal wall. The bladder is pushed up and the uterovesical fold of peritoneum is opened. A tenaculum is placed on the anterior uterine wall and the uterus anteverted into the vagina. The tubes are palpated and the one containing the ectopic is removed after clamping the mesosalpinx. The latter is tied off, the uterus pushed back into the abdomen and such clots as are easily reached in the culdesac are removed. Occasionally it seems better if the uterus is rather firmly fixed to open the culdesac through the posterior vaginal wall and bring the fundus into the vagina through this opening. The tube may be excised in a similar manner and the posterior incision offers the additional advantage of permitting drainage if there is any evidence of an infected hematocele. Occasionally when there is considerable prolapse and cystocele we have sectioned the tube near the uterus on the opposite side and thus sterilized the patient, and followed this by sewing the anteverted uterus to the vaginal wall as we closed, thus performing an interposition operation.

STERILIZATION

Sterilization may be carried out under local anesthesia either abdominally or vaginally. The former operation may be undertaken a few days after delivery as described by Adair and his co-workers. At this time the uterus is below the umbilicus and practically subcutaneous. A small incision a few inches long can be made in the mid-line of the abdomen after subcutaneous infiltration. The skin and facia are opened and the peritoneum infiltrated and opened. The fundus is tilted to the right to expose the left tube which is grasped and partially excised after infiltrating the mesosalpinx. The uterus is then tilted to the left and the right tube excised at the uterine cornua.

The same procedure may be undertaken after the uterus is involuted, except that there must be a wider abdominal incision to expose the uterus which under these circumstances is no longer an abdominal but a pelvic organ.

When the vaginal route is elected as the proper approach for sterilization, the operation is done after involution of the uterus at least six weeks after delivery. The fundus is then drawn to one side. The round and broad ligaments are thoroughly infiltrated at their uterine end. About one centimeter of the interstitial portion of the tube and an equal amount of the isthmic portion is excised, the uterine wound closed and mesosalpinx tied off. This is repeated on the opposite side and the uterus returned to the abdominal cavity and vaginal incision closed.

ABORTION

Incomplete abortion can be easily handled under a combination of twilight sleep and local anesthesia. We use morphine gr. ¼ and scopolamine gr.1/150 one hour before operation and repeat the scopolamine one-half hour later. Often no local injection is necessary but we usually use a small amount for perineal block and some in the base of the broad ligaments and under the bladder and posteriorly before dilating the cervix or scraping the uterus.

Hydatid Mole

Hydatid mole, when diagnosed relatively early, can be handled by hysterotomy. If the pregnancy has not gone too far (third to fourth month) a vaginal hysterotomy may best be undertaken. The steps are as follows: The perineum is infiltrated, the cervix pulled down and infiltrated anteriorly and posteriorly and in the base of each broad ligament. The anterior vaginal wall is incised transversely for a distance of about four centimeters. The bladder is separated and pushed up, exposing the upper cervix and lower uterine segment. The cervix is dilated up to a 24 Hegar dilator. The anterior wall of the cervix is opened in the mid-line and the incision is carried upwards into the lower uterine segment. The mole can then be grasped by ovum forceps and extracted piecemeal or en masse. It is advantageous in most of these cases to use a basal anesthetic.

When these tumors have extended above the umbilicus an abdominal hysterotomy is the operation of choice and is carried out by the same technique described under Cesarean section.

Spinal anesthesia is never used in obstetrical cases in our clinic partly because we find other methods of anesthesia answer all requirements; more particularly because we feel that there are inherent dangers in spinal anesthesia which cannot be guarded against completely by any refinement of technique.

Sacral nerve root block, while less dangerous than spinal anesthesia, offers little advantage over perineal nerve block.

Summary

It will be seen from what we have said that the use of anesthesia in obstetrics is a complex, not a simple, problem; that different conditions call for entirely different approaches to the subject. Fundamentally, we must assure ourselves that whatever method is chosen in our own practice will be safer than other methods under the circumstances surrounding our practice.

Twilight sleep and similar anesthesias are not advisable for use by the man in general practice since he cannot give or have given the proper supervisory care which such a method demands. Only in well-equipped hospital services with specially trained personnel can this method of anesthesia be advised. Under these circumstances the fetal mortality rate may not be higher, but one has the feeling that some of the babies at least were in more danger than they would have been if other methods of anesthesia had been used.

For a man in general practice probably the most satisfactory anesthetic is ether, used by the open drop method. Gas may be used when a competent anesthetist is available to administer it, otherwise complete anesthesia is dangerous. Chloroform properly used and for light anesthesia is probably quite safe but not as safe as ether, and with no demonstrable advantage.

Local anesthesia is excellent for all minor operations such as episiotomy and repair, and is useful also in the more major procedures such as forceps and craniotomy. Cesarean section and Porro Cesarean section can be done successfully under local, and many times the exigencies of a particular case make it very desirable. Toxemia cases are best operated upon under local.

When sterilization is considered there is usually some serious pathology such as cardiac or pulmonary disease which indicates the procedure. If the operation is done under local anesthesia the original pathological condition is totally unaffected by the anesthetic. It may be safely done either vaginally or abdominally and if the latter route is chosen, may be done within a few days after the birth of the baby or six weeks later after involution has occurred. The vaginal sterilization should never be done under local as well as repair of second and third degree tears of the perineum.

Low and mid-forceps delivery may very well be done under local or local combined with general anesthesia or analgesia.

Ectopic pregnancy may be operated upon, usually best with a basal anesthesia of morphine and scopolamine. The abdominal or vaginal operation may be used. The former is easier, the latter is technically more difficult and should be done only by men specially trained in gynecology and obstetrics. It has the added advantage of producing practically no shock and of being completed in about fifteen to twenty minutes. The operation may be preceded by a diagnosis colpocentesis and in case an effected hematoma is found it can be evacuated through a colpotomy incision.

The spinal advantage of local anesthesia is that is has no depressant affect on the baby as do all forms of general anesthesia to some degree.

Ocular Proptosis*

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OCULAR PROPTOSIS or exophthalmos may be the result of many different causes. It is a sign which demands the recognition of its cause and the treatment of its sequelae. As will be seen the cause may be local or general and involves not only an expert knowledge of ophthalmology but a diagnostic acumen only to be found in those possessing broad, general medical understanding. It may be uniocular or binocular, in which event it may be greater on one side than the other. Because it can be found in so many different conditions it seems wise therefore to devote this discussion primarily to the sign itself and leave out of the discussion the finer details of the organic causes.

The differential diagnosis of the causes of ocular proptosis is as a rule not found in the standard text-books either of ophthalmology or of general medicine. The subject is discussed at more or less length in the various systems of ophthalmology, both English and foreign. It will be the purpose, therefore, of this discussion to detail the differential diagnoses and to present, as far as possible, examples of each of the diseases under discussion. Many of the causes will be found to be common, others exceedingly rare, but the sign of the bulging eye, or eyes, is common to all.

Ocular proptosis may be apparent or actual, and therefore it is the first requisite to discover whether or not the patient has a true proptosis. Apparent proptosis can be dismissed in a few words. It may be due to the protrusion of the lids:

1. As a result of fat
2. A familial feature
3. Asymmetry of the face
4. Aptosis of the other eyelid or an exophthalmos of the other eye as a result of some cause or other. Likewise there may be edema of the lids with apparent proptosis as a result of

1. Ocular causes, iritis, glaucoma.
2. Inflamed condition of the lids chalazion, hordeolum, lid abscess, lacrimal abscess, frontal sinusitis, periadenitis, trauma, insect sting, trichinosis and urticaria.

The measurement of the degree of exophthalmos is of importance, not only from a diagnostic point of view but to trace the progress of the protrusion. Several instruments have been advised for this purpose. The one most commonly used is that by Hertel. This is not a rigidly scientifically designed instrument because there are many sources of error. But as a rule, if care is taken in applying the instrument, satisfactory readings will be obtained. A new inexpensive and satisfactory instrument has recently been designed by Luedde of St. Louis consisting of a transparent rule which is held at the orbital margin projecting straight forward. The convex surface of the cornea is then used as the measuring line. In the examination of a patient it is sometimes informative to stand behind the patient, who is seated on a low chair, and look down upon the eyes from above, gently retracting both lids. In this fashion a very good idea can be obtained, not only of the difference between the two eyes, but also the direction of deviation and the extent. An inspection of the eyeball should follow, with particular reference to the presence or absence of dilated scleral and conjunctival vessels, edema of the conjunctiva, abrasions or ulcers of the cornea, and limitation of the movement of the eyeball in any direction. The patient should hold his head down for fifteen to twenty minutes to see if there is any increase in the amount of protrusion. This may give valuable information regarding the cause. The eyeball and lid must be gently palpated, and an attempt made to push the eye back in the socket.

Auscultation has a place in the examination since it is possible at times to make out a bruit, at others the quality of the nasal respiratory vocal fremitus is of value, since in a solid lesion these sounds are intensified, whereas in a soft or cystic lesion these sounds are apt to be diminished. An x-ray and rhinologic examination should be part of the routine study. In certain cases it will be necessary to perform further laboratory investigation, for example, blood Wassermann, basal metabolic tests, blood smear, etc., as the case may indicate. True proptosis, monocular or binocular, may be:

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*Read before the fifty-fifth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tennessee, February 13, 1940.

A. Rapid, with edema of lids
  1. Glaucoma, iridocyclitis, panophthalmitis.
  2. Cellulitis of orbit.
  3. Tenonitis, serous or purulent.
  4. Thrombosis of cavernous sinus.
  5. Hemorrhage
    (a) Blow
    (b) Spontaneous as in scurvy, anemia, rickets, hemophilia.

B. Gradual without edema.
  1. Congenital malformation of the orbit particularly seen in the encephalocele.
  2. Ocular enlargement.
     High myopia, buphthalmos, melanoma of the choroid perforating posteriorly.
  3. Paralysis of the third nerve with loss of muscle tone. Tonotomy.

Unilateral gradual proptosis without edema, with central displacement:

1. Grave's disease
2. Paradoxical or ophthalmoplegic exophthalmos. Here I should like to go on record as stating that no patient presenting the slightest sign of hyper-pituitarism should have his thyroid removed. Two cases presenting the sign of malignant or paradoxial exophthalmos, and showing well marked evidence of hyper-pituitarism, are discussed.
3. Vascular causes.
   (a) Arteriovenous aneurysm or pulsating exophthalmos.
   (b) Varicose orbital veins.
   (c) Cricoid aneurysm of the orbit.
   (d) Nevi.
4. Tumors of optic nerve.
5. Cysts in the orbit.
   (a) Congenital, encephalocele or serous, dermoid.
   (b) Acquired, exudative, inclusion of epithelial remains as a result of trauma or neoplasm.
   (c) Parasitic.
6. Neoplasms.
   (a) Benign as a plexiform neuroma.
   (b) Malignant.
7. Foreign bodies.

Unilateral gradual proptosis without edema with lateral displacement:

1. Mucocele from sinus.
2. Neoplasm from sinuses.
3. Exostosis from the wall of the orbit.
4. Meningioma arising from the lateral wing of the sphenoid.
5. Periostitis of orbital wall.
6. Following nasal surgery.
7. Meningocele.
8. Emphysema of orbit.

The deviation of the eyeball is a very valuable though not infallible guide to the situation of the lesion. If the eye is directed straight forward without deviation look for trouble in the muscle cone, down and out investigate the frontal sinuses, upward inspect the antrum, and down and somewhat inward the ethmoid.

Binocular exophthalmos:

1. Congenital.
2. Tower skull.
3. Graves' disease.
4. Paradoxical exophthalmos.
5. Sarcoma of the ethmoid.
6. Double sinusitis.
7. Neurofibromata.
8. Cavernous sinus thrombosis.
9. Myasthenia gravis.
10. Mikulicz disease.
11. Cranio-orbito-facial malformations
    a. Hereditary cranio-facial dysostosis (Crouzon's disease)
    b. Multiple xanthomatosis (Schuller-Christian disease)
    c. Other rare forms.

Intestinal Obstruction*
With Case Report of Mesenteric Strangulation

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ACUTE INTESTINAL obstruction of the small gut rapidly renders the patient dangerously ill and therefore prompt diagnosis is requisite to efficient treatment. Based on this assumption the diagnosis will be stressed. To give a background of the subject, the pathological mechanism will be reviewed. This will throw light on the diagnosis, the therapy, and will somewhat illuminate the prognosis or end result. This, after all is said and done, is what the patient is most interested in. The plan of the paper is to review the subject in a general way, then, with a case report, to focus the attention to those cases caused by adhesions.

ETIOLOGY

The conditions fundamentally responsible for intestinal obstruction are inflammatory reactions, neoplasms, and developmental defects including diverticula, herniae, and atresias in early life. The chief causes are abnormal contents, strictures, and congenital malformations, intussusception, volvulus, tumors, mesenteric thrombosis and embolism, paralysis of the intestine, and strangulation.

Among the foreign substances that cause obstruction the literature gives prominence to Ascaris. Interesting impacting masses of round worms have been reported. The list ranges from money (coins) to gall stones. Barium sulphate used in x-ray examination occasionally becomes hard causing impaction, usually in the pelvic colon.

Strictures may result from a congenital anomaly or inflammatory changes due to dysentery, ulcerative enteritis, tuberculosis, syphilis, or various other infections.

Intussusception, most frequently seen in infants and small children, is the telescoping of one section of the intestine into another—usually a proximal section into an adjacent distal one. The reverse or ascending type is rare.

Volvulus is the term applied to the twisting of a loop of intestine through more than 180 degrees on its mesentery. This may produce strangulation of the circulation and occlusion of the bowel. Violent catharsis, falls, jumps, the weight of tumors or fecal masses, operative trauma to the intestine, all are listed as contributing factors.

Neoplastic growths may be either benign or malignant—may be intrinsic or press on the outside of the bowel. However, carcinoma is a frequent and the most important tumor that causes intestinal obstruction. As to location the frequency is highest in the colon.

Vegetative endocarditis, injury, or an operation may initiate embolism or thrombosis of the mesenteric arteries, or thrombosis of the veins.

Paralysis probably is most frequently caused by operative attack. It may be due to acute infection or may follow occlusion to the vascular supply of the intestine. "Ileus" is the term that used to be and frequently still is applied to this type. It is a Latin word derived from two Greek roots meaning **from** plus **to twist** and hence describes volvulus. Even though there is a voluminous literature under this heading the terminology is faulty and should be dropped.

Adhesions, more common in males than in females, more common in negroes than in whites, most frequently found after the age of thirty, are the most frequent causes of obstruction in the adult. Adhesions may be in the form of bands, thin veils, or strong cords. Textbooks list the following as causes due to strangulation: adherent appendices, uterine tubes, Meckel's diverticula, mesenteric and omental slits, peritoneal pouches and openings, extra-abdominal herniae, intra-abdominal herniae, and pedunculated tumors.

Holland estimates the incidence of the causes as follows:

Strangulation, 35 per cent.
Twists, kinks, knots, 12 per cent.
Intussusception, 38 per cent.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, Corinth, Miss., March 12.

Occlusion by abnormal contents, 11 per cent.
Strictures and tumors, 4 per cent.

PATHOLOGY

The pathology and pathological physiology is intriguing. In simple obstruction there is a gradual increase in distention of the intestine. As this progresses the bowel wall becomes increasingly thin and obviously the circulation is interfered with. The thinning out may reach an extreme degree and become paper-like in consistency, easily torn. Any increase in diameter of the bowel is triple in the circumferential measurement. One may not fully realize the strain to which the structure and function of the part is put until he remembers that the diameter of a circle times pi equals the circumference. With this fact in mind one gains a better conception of the condition. The walls, congested and edematous, present cyanosis. The mucous membrane contains the most highly developed and specialized cells. These being the most delicate portion of the organ are naturally the first to degenerate. The mucosa becomes congested, swollen and edematous, purplish-red in color, and presents areas of necrosis. The content of the intestine is a thin, brownish, foul-smelling fluid frequently designated "fecal" vomitus. There is more or less gas. The proteolytic types of bacteria dominate the intestinal flora. This review of the pathology in simple obstruction gives a general idea of what goes on in the different types. To this picture is added various complicating factors. In cases due to congenital anomaly or stricture, the structures of the bowel wall peculiar to this condition will be added. In intussusception the invagination and approaching or resulting gangrene of the folded layers will be added. Volvulus combines the pictures of strangulation and occlusion. In obstruction due to tumors will be superimposed the histological structure of the neoplasm. If due to carcinoma the depleting effects on the general system, of the anemia and metastasis, will be added.

Strangulation with the exception of external herniae results most frequently from constricting bands or cords of adhesions. The thin walls of the veins and the relatively low internal pressure permits interference with the venous return. Embarrassment of the return circulation in the mesentery results in the bowel changing to a dusky mahogany red which turns black as occlusion becomes complete. The formation of adhesions in the abdomen is a necessary reaction to inflammation between apposing serous membranes which localizes bacterial invasion and limits the effect of trauma.

Since adhesions are a natural defense mechanism of the body it is obvious that the prevention is difficult. When adhesions are cut the raw surface becomes covered with fibrin, resulting in fibrous tissue, and the cycle begins anew. In the study of this phenomenon, which is a blessing in the great majority of cases but in the occasional one may be a curse, it is interesting to note that the exudate from the streptococcus is poor in fibrin while that from the colon bacillus is rich in both fibrin and leukocytes. Hence, fibrous band formation is abundant following an infectious peritonitis due to the colon bacillus but scanty when the streptococcus is the etiological factor.

Charles Mayo once remarked: "Adhesions between movable viscera are of little consequence, but adhesions between abdominal viscera and a fixed point are sources of danger." In strangulation there is approaching gangrene. The intestine may become very thin at the beginning due to distention but later the walls become thickened due to edema. There is an exudate of free blood-stained fluid in the peritoneal cavity. Eminent authors count this pathognomonic of strangulation. In the developing pathologic process the mucosa becomes gangrenous first. With necrosis of the mucosa an important barrier to bacteria is destroyed and a rapid infiltration of the walls occurs. This suggests the questions that come to every doctor who treats intestinal obstruction: What produces such profound prostration? What makes the patient so desperately sick? Why is it such a rapid process? The old idea that it is due to absorption of decomposed intestinal contents has been discarded. The present conception of food poisoning refutes this. So-called food poisoning, formerly called "ptomaine poisoning," is now considered to be a food infection usually due to one of the members of the Salmonella group. Now, if necrosis of the mucosa allows rapid infiltration with bacteria, will this explain the extreme prostration and early death? The temperature is most favorable to the rapid multiplication and disintegration. The normal physiology of the parts accelerates absorption. It is logical to believe that under these optimum conditions the bacterial infection will cause a great deal of poisoning. However, this has not been accepted as a whole story.

Vomiting comes early in the sequence of symptoms, is severe, and rapidly produces dehydration. The body attempts to compensate for the digestive juices lost in vomiting, drawing on the blood for it. This results in a decrease in chlorides, increase in the alkali reserve, and a rise in the nonprotein nitrogen. Some authors believe that the loss of the sodium and chloride ions are largely responsible for fatality.

Stercoraceous vomiting may add insult to injury in that it may cause an aspiration pneumonia. In such cases, shreds of muscle stained with bile, bits of vegetables, grains of starch, etc., have been recovered from the lungs.

Later workers have demonstrated experimentally that a toxin developed in the lumen or wall of the occluded gut may be responsible for the grave condition. Many do not accept this. This toxin has not been proved to be of bacterial origin.

The blood shows very little change in the number of red corpuscles. There is a leukocytosis with a relative polymorphonuclear increase but no bacteremia.

Respiration may be quickened early because of pain impulses. Later it becomes rapid and shallow, due to the anemia of the respiratory center resulting from low blood pressure.

Urination is scanty, approaching anuria, due to both dehydration and reflex inhibition of kidney secretion. Urinary non-protein nitrogen and urea are increased. Albumin and casts are present. McQuarrie and Whipple believe that impaired function is directly due to action of a toxic substance upon renal epithelium. Others think the kidney cannot separate a normal urine from a concentrated blood.

There is a decreased flow of bile which is probably associated with the intricate phenomenon of dehydration. One might continue the study of the pathological physiology at length and then only be traveling in a circle. Suffice it to say that the process probably consists of three interrelated parts—one part augmenting the other in a progressive fashion. There is certainly a decided dehydration. The infection may favor the formation of the distinct specific toxin. Both the infection and the toxin may hasten and intensify dehydration.

Whatever the whys and wherefores of the extreme prostration and hasty collapse practical judgment reminds one that the name of the entity—intestinal obstruction—describes the fundamental disease process. The essential pathology, concisely stated by Kelly, is a **blockage of the intestinal tract.**

Symptoms and Signs

Pain is the outstanding symptom. It is what the patient wants relief from each time he is visited until the condition is corrected. At the onset it may be intermittent and of a cramp-like nature, but as the illness progresses, it becomes continuous and increases in intensity. The severity of the symptoms is directly proportional to the extent of damage to the bowel wall or the mesentery. Regardless of the location of the trouble the pain may be in the epigastrium. If the seat of the trouble is in the jejunum or ileum, the pain is usually felt at the umbilicus—if in the duodenum or colon, the pain is at the surface marking of the lesion.

Vomiting follows pain and becomes severe. It does not produce relief but empties the intestinal tract as far as the site of the obstruction. It continues becoming a violent retching with only a scanty amount of digestive juices drooling from the mouth.

Obstipation is the usual occurrence and will finally supervene but is by no means pathognomonic. Provided the obstruction is not low in descending colon, there may be several bowel movements before a complete stoppage sets in. In strangulation which is not at first complete there may be several small diarrheal stools, some of which may contain blood. Therefore, this "notable characteristic" may not be present early in the progress of the case. There is an inability to pass flatus when occlusion is complete.

Shock is nearly always present if the case has progressed several hours. It is characterized by a low or subnormal temperature, low surface temperature—the skin feels cold and clammy—low blood pressure and a weak rapid pulse. Prostration becomes severe and progresses to collapse. The patient becomes desperately sick.

Distention is pronounced. Early the abdomen is soft and flat. Later a tympanitic note may be elicited and the anterior wall becomes extremely ballooned out. Peristalsis becomes visible in many cases and borborygmi are heard. Ochsner has advocated the use of the stethoscope in abdominal examination. Auscultation will indicate where peristalsis is blocked or whether it is present or not. Shrill whistling or bubbling is significant of the site of the lesion. Rigidity usually does not develop, but the pain may be enhanced by firm pressure made at the surface marking of the lesion.

General appearance and facial expression furnish rich information, the value of which one is able to evaluate as his clinical experience broadens. This is the mental picture one gets of the patient and cannot be painted in a brief paragraph. The attitude, the facial expression, the pulse and respiration counts, the temperature and blood pressure readings should be carefully noted. It is assumed that these preliminary findings are considered when any patient presents himself for examination. This part of the examination is mentioned for the sake of emphasis, for it is of fundamental value. A good start favors prompt diagnosis which is most desirable in this condition. A scar from previous operation suggests probable adhesions which must be eliminated or substantiated as the case is studied. In intestinal obstruction, the facial expression becomes pinched,the pulse accelerated, the temperature may be elevated to about 100 degrees, the blood pressure normal and the respiration quickened and shallow as the result of the pain. As hours pass, shock and dehydration with dechlorination supervene, accounting for the fact that the eyes become sunken, the pulse quite rapid and small--120 or more, and blood pressure lowered, and the temperature from 100 to 102 degrees. In the history, previous attacks of appendicitis, pelvic inflammatory diseases, or other conditions conducive to peritonitis suggest probable adhesions which must be ruled out. In a small child intussusception is suggested, while an elderly person may have volvulus, hence the age is important.

Laboratory findings may or may not help in the diagnosis. Often there is a leukocytosis ranging around 30,000 with a relative polymorphonuclear increase. Blood chemistry shows increased non-protein nitrogen and the carbon dioxide combining power is increased indicating alkalosis. A flat x-ray plate is of value in that a ladder type shadow indicating the fluid level in the intestinal convolutions will be shown. It is considered best not to use a barium meal in these cases, because its weight may aggravate the condition and because a bowel filled with barium is not desirable at operation. Barium enemata may be used to advantage to demonstrate intussusception, volvulus, and tumor of the colon,but the meal is contraindicated. The above mentioned laboratory findings may not be present until the case has become advanced. Similiar blood counts and blood chemistry may be found in other conditions. Therefore the laboratory findings, although desirable, are not always dependable. This fact makes many of us who practice in small towns feel more secure since we may not conveniently have access to the refinement of blood chemistry services.

DIAGNOSIS

Sudden intense colicky pain, vomiting that progresses to stercoraceous, stoppage of feces and gas, shock, dehydration and profound prostration indicate the diagnosis. In making the diagnostic study the usual hernial apertures and body orifices should be examined. The following entities must be differentiated: Food poisoning, lead colic, tabetic crises, uremia, acute peritonitis, acute appendicitis, acute pancreatitis, acute cholecystitis, acute cholelithiasis and acute perforation. In short, all the emergencies that cause severe abdominal pain require consideration.

The diagnosis of intestinal obstruction depends upon the history and physical signs. This information is "all wool and a yard wide" and may be depended upon.

TREATMENT

The treatment consists of immediate surgical operation with appropriate post-operative care. Gastric lavage and cleansing of the descending colon with enemata are of advantage. Usually these procedures will have been carried out while the diagnosis is being made. The laparotomy is nearly always exploratory. At operation the cutting of bands of adhesions, resection of a portion of the gut, reduction of intussusception or volvulus, depending on the type of obstruction encountered may be required.

In advanced cases it may be of advantage to delay operation and institute suction-siphonage to reduce distention, and the administration of physiologic saline solution and morphine. However, if shock and dehydration are not profound, prompt operation provides the most efficient treatment.

Following operation, dehydration and dechlorination are combatted with the intravenous administration of 10% dextrose in physiologic saline solution. For adults at least

3,000 cc. are given daily. This supplies fluid, chlorides, and energy in the dextrose. The dextrose favors diuresis. Morphine is given for pain and to combat shock. Distention may be relieved by the frequent injection of 1 cc. of surgical pituitrin. If this does not give results, suction-siphonage is indicated.

The choice of an anesthetic depends largely upon the condition of the patient. Spinal anesthesia should not be employed if shock is performed.

Here it may be appropriate to comment on the prophylaxis of adhesions, since this is the cause of most obstructions in the adult. Adhesions follow all abdominal operations. It is up to the surgeon to endeavor constantly to minimize this formation. Rough handling of the gut, contamination of the viscera with the skin sterilizing solution, and violent retracting favor adhesions. These should be avoided. Peritonization of all raw surfaces should be the routine practice. This includes eversion of the cut edges of parietal peritoneum in the closure of the operative wound. Next comes the cantankerous problem of preventing the reformation of harmful adhesions, once they have been severed. Surgeons, for many years, have sought a substance that would prevent the formation of intra-abdominal adhesions. Among the items that have been tried are: olive oil, liquid petrolatum, the so-called Cargille membrane (sterilized ox peritoneum), camphor liniment U. S. P., acacia U. S. P., etc. Liquid petrolatum stimulated the formation of nodules and the adhesions ultimately reformed in greater degree. Bogart reports the successful use of ascitic fluid obtained from a patient with cardio-vascular disease in two cases of severe adhesions.

Most of the substances were used with the idea of forming a protective coat until a certain amount of healing occurred. These failed because of severe reactions envolving as a result of the irritation to the serous surfaces.

In 1932 Ochsner and Garcide reported experiments that promise better results. Rather than use a protective coating they employed enzymes in order that the exudate would be digested before firm adhesions formed. Papain (a vegetable enzyme from the unripe fruit of the papaw tree—active in both neutral and alkaline media) is the most suitable for chemical use. It is superior to trypsin, an animal enzyme, because its effectiveness is of longer duration. The effect is due to direct proteolytic action. Too weak a solution is ineffective while one too strong results in peritoneal irritation. The usual strength is 1:25,000. The best base is 0.25 per cent solution of sodium citrate.

PROGNOSIS

The best end results are obtained by operation early in the course of the disease. The average mortality of all types of cases is twenty-six per cent. In statistics that exclude cases due to herniae the mortality is thirty-seven per cent. An efficient routine in some hospitals has reduced the mortality reports that exclude herniae to thirty-two per cent. Therefore, for practical purposes one may say that in this group, one patient out of three stricken dies. This emphasizes the gravity of the condition. The cases due to adhesions offer the best opportunity for prevention. Therefore, every surgeon should strive to employ an operative technique that will minimize the formation of harmful adhesions.

CASE REPORT

I shall conclude with a case report and comment.

A white female, age 50, had been feeling bad during the morning. She remained up and about until the seizure of severe abdominal pain forced her to bed at 1:00 P.M .The facial expression did not reflect much anxiety. Temperature was 98.4 degrees, pulse 88, respiration 20, and blood pressure 120/90. The patient located the pain in the epigastrium. Palpation of the abdomen aggravated the pain. With the exception of a five-inch right rectus scar and another in the midline, no other pathologic findings were noted. There was history of an operation for intestinal obstruction due to post-operative adhesions four years ago and the patient asked if this attack might be obstruction!

Past History: Amputation of breast 18 years ago; removal of a fibroid uterus, one tube, one ovary, and the appendix ten years ago; radium treatment of the cervix uteri for cancer diagnosed by biopsy eight years ago; laparotomy for intestinal obstruction due to adhesions four years ago. There was a long period of diarrhea following this operation. Daily doses of mineral oil have been taken for a long time to combat constipation.

The tentative diagnosis of food poisoning aggravating a probable chronic partial obstruction was made and a hypodermic of one-fourth grain of morphine given. This gave relief and the patient slept some during the night. Enemata gave no results. A bismuth prescription was vomited. Protracted vomiting set in. The pain became continuous and more severe. In the afternoon (about twenty-four hours from the onset) the stomach was washed with sodium bicarbonate and sixty cc. of fifty per cent magnesium sulphate solution instilled into the duodenum. This procedure failed to relieve the pain but gave some relief from the trying vomiting. The vomiting produced very little at this stage and reduced itself to gagging and spitting. The pulse was still only slightly accelerated and the temperature was 99. Distension was not present. By night blood counting revealed 11,000 white cells and sixty-eight polymorphonuclear neutrophils. A mixture of tincture of opium and chloral hydrate was provided to include rest during the night. I was telephoned about 6:00 A.M. the following day, informed that the patient was not better, and asked to see her promptly. The narcotic prescription had failed to give relief. The pain was continuous and excruciating. The eyes were sunken, shock and prostration were marked, distension below the umbilicus was evident. The pulse was 26. The blood pressure remained unchanged. The white blood count was now 12,600. Laparotomy was done under ether anesthesia, about forty hours after the onset. The abdomen was opened with difficulty due to the adherence of the omentum to the previous operative scars in the perietal peritoneum. A quart of blood stained fluid in the peritoneal cavity was withdrawn by suction. The lesion was easily located and severed. It consisted of a fibrous cord, the diameter of a match stick and one-fourth an inch long, tying two loops of intestine tightly together across the mesentery. This obstructed the vascular supply of approximately eight feet of the ileum. This section of the gut was lusterless, dark blue in color approaching gangrene. Hot laparotomy packs were applied and the color of the affected part was changing to red in three minutes. Before closure of the peritoneum was complete the appearance of the intestine was greatly improved. The operation gave immediate relief from pain and there was no post-operative vomiting. Hypodermoclysis of 3000 cc. of two and a half per cent glucose in physiologic saline was given immediately following operation and repeated the next day. One dose of pituitrin was injected the second post-operative day to relieve gas pain. Peristalsis was re-established the second post-operative day. The patient made satisfactory progress and was able to leave the hospital the sixteenth day.

Eight weeks after operation, x-ray examination showed a very small quantity of barium retained in the ileum after twelve hours.

COMMENT

The management of this case presents two serious faults—the use of magnesium sulphate and delayed operation.

The magnesium sulphate was given when the condition was still thought to be a simple fecal impaction at a partially occluded portion of the gut. Operation was delayed because during the first day of illness the physical findings did not indicate a grave condition. As the second night approached the question of operation was again considered. Was it safe to observe another twelve hours? Since the white blood count was only 11,000, the temperature 99, the pulse 90, and there was no distention, the patient was allowed to go overnight.

In the history it will be remembered that there was a bowel movement the day of onset. This has a tendency to mislead one but it should be remembered that peristalsis may empty the lower colon when the lesion is in the small intestine. Likewise practically normal pulse, temperature, respiration, blood pressure, and blood cytology findings should not throw one off his guard.

The question the patient wants to know is this: Do I have any more adhesions? It is not surprising that a patient having visited the operating table five times is reluctant to try the experience again. She would like to be assured that permanent relief will ensue. For this reason the function of the intestinal tract was studied with x-ray examination. Although the ileum should empty in eight hours normally, in face of the history, the nearly complete emptying in twelve hours is counted good for this patient. Recurrences are most frequent during the first year in this type of case. After the first year has passed the most frequent time for recurrence is the sixth year.

CONCLUSION

It is hoped that in the future through the perfection of operative technique and the development of a combatting agent, whether it be an enzyme or not, the formation of harmful adhesions may be prevented.

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DISCUSSION

Dr. G. S. Bryan (Amory): I wish to congratulate Dr. Hill for such a splendid paper and for presenting it so well. One question that arose in my mind was, does he mean correct diagnosis—but of course he does. In my discussion I shall bring you a voice from the past. Most of my early ambitions and training were along surgical lines. After interning under the late W. B. Rogers and serving as his assistant in his private work, you may be surprised that I had never heard the word "appendicitis" when I began independent work—nor had Dr. Rogers—for the word had not been coined then. But soon after I began work, Dr. J. B. Murphy startled the medical world by reporting a successful appendectomy. Within a short while I located what I thought must be a case of appendicitis. A young man came to my residence one morning, riding a mule, and said he had the cramps. I told him something to do and instructed him to report to me if he should not get relief. The following morning I was called to see him. I found him in bed, quite sick and still suffering. His bowels seemed blocked. Symptoms and history convinced me that I had a case of appendicitis to deal with. By this time a controversy was raging as to whether castor oil or magnesium sulphate was the purge that should be resorted to in such cases. I leaned to the salts side of the controversy. So I told the father to purge him freely with salts. He insisted that I be more definite as to how much salts to give. I suggested that half a teacup of salts be dissolved and this be divided into four doses and given at hour intervals. Next morning I returned and found the floor wet from profuse vomiting. The boy began crying and asked how much salts I had said for him to take. When I answered that I meant for him to have half teacupful divided into four hourly doses, if necessary to open bowels, he said he had been given four doses of half cupful at each dose. I operated on the boy and found what I thought to be his appendix, about the size and shape of a medium-sized banana. I used chloroform anesthesia, tied off the pathology with fishline silk, carried my trophy home with me; and the boy promptly recovered and is living and well today. That was the first appendectomy undertaken, so far as I have been able to learn, in north Mississippi. I learned later that I had removed a gangrenous Meckel's diverticulum.

The second case that I shall discuss is that of a small boy who had intestinal obstruction due to round worms. This boy was brought to me early one morning suffering from cramps without nausea.

His father stated that a strong wind had blown many apples from the tree in the yard and that the child had been permitted to stay in the yard and eat all the apples he wanted. He went to bed that night without eating supper and refused to eat any breakfast. His parents decided that he must be sick since he would not eat and brought him to me for a treatment. When he reached me he was in severe pain but would not permit me to touch him nor examine him in any way. His father would not hold him so I could put my hands on him. I decided this may be a case of colic from having eaten too many apples and gave something to clear out the bowels. But back in my mind I feared that all the trouble was not due to the apples he had eaten. I had a consultation call to make in another part of the county, so the boy was taken home but I instructed the father to bring him into the hospital if he was not better at noon. Late that afternoon his father brought him in, almost moribund on arrival. My friend, Dr. Ewing, and I operated at once and found a ruptured gangrenous bowel with an almost unbelievable number of large worms in free peritoneum. Of course, he died.

Case number three is the mother of my office nurse. This patient was 72 years of age when she began to have cramps. The pain was quite severe—worse at times. It soon became difficult to get bowel movements. After a time she was given barium and x-rayed without any satisfactory finding. Barium enema with x-ray gave no positive help. But since there was almost complete bowel block, section was done. A sharp kink was found and cords of adhesion wrapped around several inches of the kink. We had expected to find carcinoma instead of condition described. Owing to age and extreme condition nothing beyond a short-circuiting was done. After a slow convalescence she returned to perfect health. Last October, having reached the age of seventy-nine, an attack of coronary occlusion (pronounced) put her in bed. She is apparently over this trouble but I fear her obstruction is about to return. This patient is too old and feeble to submit to another section. So in the language of another, I have decided to let her "do her own dying."

Dr. V. B. Philpot (Houston): As has already been stated by the essayist, the most important procedure in intestinal obstruction is to make an early diagnosis. But as stated this sometimes cannot be done, and we have found a good rule to follow when in doubt concerning the diagnosis is to operate anyway. We had better operate on a patient when no trouble is present than to let someone die for the need of it.

Now, there is one procedure that aids tremendously in making a diagnosis when other methods have failed. Dr. Hill has already stated that no spinal anesthetic should be used on a badly shocked patient. This is true. Neither should a general anesthetic be used but only a local. And I have an idea that I was about the last man in this society to begin using spinal anesthetics and I am still not a fanatic on its use, but if you have a patient whom you suspect has an intestinal obstruction and whose general condition is reasonably good, give such a case a spinal anesthetic and if the apparent obstruction be from a slight kink, spasms or paresis as a rule, relaxation will take place immediately, and the patient's bowels will move. And should there be a real obstruction present such a patient is in a real good condition as far as the anesthetic is concerned for the proper surgical procedure.

Now, in reference to the operation itself in intestinal obstruction, I know of no surgical condition in which good judgment is of so great importance. Some cases we can do a classical operation and relieve the obstruction and complete the job in one sitting. But in most instances when these cases are seen they suffer the shock of toxemia and conservation is of the greatest importance. Do an enterostomy or colostomy to relieve immediate serious symptoms and if necessary operate for the obstruction at a later period.

In reference to the enterostomy I learned a little simple method from Dr. Hendon, of Louisville, while visiting us last year, concerning the use of the Pezzer catheter in this procedure. Simply free of fecal matter a three- or four-inch portion of the intestine where the enterostomy is to be made. Make a very small slit, extend the Pezzer catheter, introduce the bulb and put a purse string around the neck. This can be done without the slightest spill, after which pull the catheter through a stab wound away from the original incision and anchor it with one silk suture through the skin. The serosal coat of the intestine will adhere to the peritoneum without sutures and when the obstruction is relieved the catheter can be cut at the skin and the bulb portion allowed to pass out through the bowels.

Dr. Stanley Hill (Closing): I want to thank Dr. Bryan and Dr. Philpot for the interesting and enlightening discussions.

One question that may have occurred to you on hearing the history of this case is whether or not the radium implantation in the cervix uteri caused the formation of the adhesions. It was thought that it did not since the location of the lesion was superior to the brim of the pelvis.

Thank all of you for your kind attention.

Essential Hypertension and Diabetes Mellitus from an Endocrine Standpoint*

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THESE TWO syndromes are often found in the same patient. They bear many points of resemblance to each other. Victims of hypertension often meet death from the same causes that overtake the diabetic. The same pathological findings are reported in both syndromes. Jaffe[1] found grossly enlarged adrenals in 18 out of 65 cases of diabetes. Tumors of the adrenals or gross enlargement of them have been noted in cases clinically diagnosed as diabetes, Graves' disease, hypertension and nephritis.

The following endocrinopathies have been associated with one syndrome or the other and sometimes with both occurring in the same patient:

Acromegaly
Gigantism
Basophilism
Adrenal tumors
Hyperthyroidism
Hypothyroidism
Cancer of the thymus.

Graves' disease and diabetes have many features in common[2].

The inhibition of pituitary function by amniotin injections or hypophysectomy reduces in severity or entirely prevents the diabetes following pancreatectomy. Injections of anterior lobe extracts have produced experimental diabetes. The diabetes of menopausal women has been controlled by injections of 2,000 units of amniotin every four days[3]. Schaefer[4] reported the control of hypertension in women of menopausal age by injections of an estrogenic compound.

IRRADIATION THERAPY

The foregoing considerations and a mass of data of similar import led us to the belief that the pituitary and adrenals play an important part in these two syndromes. Because of the well known regulatory effect of x-rays on endocrine function it was thought that this agent could be used to restore these structures to normal function or balance with coincident correction or amelioration of essential hypertension and diabetes.

We have used very small doses, even smaller than those employed by the dermatologist in treating superficial skin lesions. The following factors have been found the most effective: 120 kilovolts, 2 mm. aluminum filter, 50 cm. skin target distance, 3 milliamperes, 50 r, measured in air, at the surface of each port of entry. Occasionally the time is extended to give 70 r to each area treated. The pituitary region is irradiated from both sides through a portal 10x10 cm. The adrenal areas are treated through a common portal 15x15 cm. The three areas are treated on the same day.

Treatment has been repeated at six weekly intervals when needed. After a rest of six weeks the series may be repeated. But if symptomatic relief or a marked fall in blood pressure occurs after the first or any other treatment, no further treatment is given until there is some return of symptoms or a beginning rise in blood pressure. Failure is most often due to too large doses, treatments given at too frequent intervals or too close to the menstrual period. In our experience, treatment should not be given within ten days prior to the menstrual period.

Our results in the past six and a half years are summarized in the following tables:

TABLE I

Hypertension

*Adequately treated and followed			289
Improved	198	68.5%	
Relapsed	29	10.0%	
Remained improved	169	58.47%	
Unimproved	91	31.48%	
Insufficient treatment			27
Can't be followed			59
			375

*Three or more treatments.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, Corinth, Miss., March 12.

Criteria of Improvement

Relief of such symptoms as headache, vertigo, irritability, blurring of vision and precordial distress has occurred in many patients who experienced little if any reduction in blood pressure. However, we have not rated patients as improved unless they also registered a fall in blood pressure of 30 mm. in the systolic and 20 mm. in the diastolic pressure. There have been only two or three exceptions to this rule. In addition to symptomatic relief and a fall in blood pressure there has often been some improvement in renal function as measured by the phenolsulphonphthalein test, improvement of retinal lesions and reduction of the basal metabolic rate. In some cases improvement of the retinal lesions, of vision and of renal function has occurred when the course of the disease was apparently unaffected. Such patients were rated as unimproved.

The following case history illustrates this point: Mrs. B., referred by Dr. John F. Krum, of Chicago, was 40 years of age and had known of her hypertension for ten years. She complained of violent headaches and blurred vision and had two "light strokes" during which her speech was affected. She was admitted to the hospital a few days after the occurrence of the last stroke, at which time her vision was so poor that she was unable to read the newspaper, even with glasses. Her blood pressure was 240/150. Her eye condition was reported by Dr. Hiram J. Smith as showing perivascular hemorrhages, cotton wool exudates, especially about the macular region and near the discs, "a typical picture of cardiovascular fundus, neuroretinitis." A nodular goiter was present. The basal metabolic rate was plus 30 per cent. After six treatments she was able to read fine print without glasses. Her renal function on admission showed a return of 30 per cent of the dye in two and a half hours. After a few treatments the dye excretion amounted to 60 per cent in two hours. The blood pressure came down to 180/115 in the left arm and 200/125. She observed that as her blood pressure rose, her vision became more impaired. Later Dr. R. W. McNealy resected part of the left adrenal. It showed no signs of x-ray damage. She died within a few months, probably of cerebral hemorrhage. Autopsy was not permitted.

The case histories of a few patients that seemed to experience definite improvement are shown in the following pages:

Mrs. H., the 55-year-old wife of a physician, was first seen April 16, 1934. She complained of vertigo, precordial distress, headache, shortness of breath, and irritability. She had known of her hypertension for several years. She was the last of her family, the siblings having died of cardiovascular-renal disease. Her blood pressure was 230/130 left, 200/125 right. She was five feet six inches in height and weighed 190¾ pounds. The heart was regular with no murmurs, but there was some question as to enlargement.

After two treatments her blood pressure on April 23, 1934, was 170/95. The vertigo and precordial distress were relieved and she felt comfortably relaxed, she said, and was less irritable. She had four treatments that year and on December 14, 1934, her blood pressure was 165/105. She had another treatment March 8, 1935, when her pressure was 170/105. September 3, 1935, her blood pressure was 160/100 and she was symptom free. January 23, 1939, she wrote that she had had four comfortable years but that her blood pressure had risen recently to 190/115 and she had lately had some vertigo. She came in again February 20, 1940, and said that after prolonged mental and physical strain her blood pressure had risen to 240/140 in December, 1939. On February 20, 1940, the blood pressure was left 210/120; right 200/110; pulse 80. She complained of many of her old symptoms. She had an x-ray treatment that day and reported again three days later. Her blood pressure then was 155/95 in both arms. She said the disagreeable symptoms had all gone, she felt comfortably relaxed and had slept well.

Mrs. E, aged 60, was often seen on February 25, 1936. She had known of her hypertension for seven years. She complained of nervousness, disabling headaches and visual upsets (glaucoma). There was a question of an enlarged heart, but the arteries were considered normal for her age. The glucose tolerance test showed the following blood sugars: 92.5, 107.5 and 99.5 mg. A slight glycosuria occurred during the test. There were no other abnormal findings.

Blood pressure left 220/128. Following an x-ray treatment on March 3, 1936, the blood pressure fell to 160/95. On May 11, 1936, the blood pressure was 140/95 in the right arm and 145/95 in the left. She received x-ray pictures as follows: May 12, November 5, and December 15, 1936; Feburary 10, June 3, 1937; Feburary 7, Feburary 22, April 18, May 31, September 14 and November 12, 1938. The blood pressure was within normal limits except just preceding these x-ray treatments. February 10, 1939, it had risen to 170/90 right and 165-180/105 left and she received another treatment. The blood pressure was 145/95 on April 12, 1939. She claims to be free of all symptoms which troubled her when she was first seen.

The symptoms of hyperthyroidism associated with hypertension have been relieved in a few cases. The next two cases are examples of this feature.

Mrs. C. was seen January 17, 1934, at the age of 46. She complained of nervousness, irritability and insomnia. She had lost some weight but had a good appetite. There was a fine tremor of the fingers and tongue but no goiter and no eye signs. The basal metabolic rate was plus 48 per cent. Blood pressure was 170/90. After three x-ray treatments to the pituitary and adrenal regions her blood presure was 145/90 and the basal metabolic rate minus 6 per cent on May 4, 1934. She has had six x-ray treatments since which have kept her blood pressure about normal except when she develops an infection. We have noted that the blood pressure almost invariably rises in the presence of an infection.

Mrs. M, aged 59, had a subtotal thyroidectomy for Graves' disease in 1928. There was a recurrence of symptoms for which a second operation was done in 1929. A third operation was being urged on her in 1934 when she first came under observation. She presented the usual symptoms of Grave's disease. Her basal metabolic rate was plus 56 per cent. She had considered thyroid tissue including a mass about 2.5 cm. in diameter in the right lobe. Her heart had undergone some damage. It was enlarged in fibrillating and a systolic murmur was heard over the precordial region. She had some precordial pain radiating down the arms and was quite short of breath on exertion. Her blood pressure was 205/75. Treatment was undertaken for the hypertension by irradiation of the pituitary and adrenal areas. The thyroid was not irradiated. After six treatments at weekly intervals her blood pressure was 135/88. The basal metabolic rate had fallen to plus 18 per cent. Seventeen months later the blood pressure was 165/90 and the basal metabolic rate plus 14 per cent. The mass of thyroid tissue seemed unchanged. The blood pressure and signs of hyperthyroidism were controlled by one x-ray treatment of the pituitary and adrenals—not the thyroid—in 1936 and three more during 1937. When the symptoms returned they again yielded to irradiation, except those due to the heart, which was irreparably damaged when she was first seen.

As shown in Table I some cases relapsed. They experienced relief of symptoms and a marked fall in the blood pressure which later rose nearly or quite to the pretreatment level and was not affected by further x-ray treatments. In many cases this rise of blood pressure was not accompanied by a return of symptoms. This phenomenon and the fact that symptomatic reliefs sometimes occur in some patients who never experience any significant fall in blood pressure, indicate that this treatment should be used in all cases presenting the annoying and sometimes disabling symptoms mentioned.

The blood pressure status of all patients was carefully determined before x-ray treatment was given. In some this was done by other men over a long period of time; in others it was done by repeated observations in the office. This wide fluctuation that may occur in blood pressure independent of any treatment is well known. However, in the cases rated improved or relapsed no similar relief of symptoms or reduction in blood pressure had occurred spontaneously or in the course of any other therapy.

Many hypertensive patients exhibit a wide difference in blood pressure readings in the two arms. This often amounts to 30 mm. and changes from one to the other between visits. We take readings on both arms at every visit.

Patients who do not respond satisfactorily to irradiation seem to become more susceptible to the nitrites and sulfocyanates. A few cases have been subjected to irradiation and later to surgical procedures as shown by the following case history:

Mrs. Y., aged 34, was referred by Dr. Hubert M. English, of Gary, Indiana, October 17, 1934. She had known of her hypertension for ten years. She was troubled with headache, precordial distress, weakness and dysmenorrhea. The blood pressure was 260/140 left, 260/155 right. She had a very small sella and some excess hair on her body. Otherwise there were no significant physical or laboratory findings.

Up to May 11, 1936, she received 26 x-ray treatments. On July 13, 1936, her blood pressure was 200-205/125 in both arms. However, there had been practically no symptomatic relief and it was not felt that the x-ray treatments had been of any value to her.

Her condition gradually grew worse, although her blood pressure changed but little. November 2, 1937, Dr. R. W. McNealy removed about one-fourth of her right adrenal and the celiac ganglion. He also severed the splanchnic and adrenal nerves on that side. Following this there was a slight drop in blood pressure lasting several days but no symptomatic relief. The adrenal showed no signs of x-ray damage nor was any adenoma found.

Her condition continued to grow worse. Her headache became more frequent and severe, retinal hemorrhages occurred, and precordial distress was more marked. February 8, 1938, Dr. McNealy did a similar operation on the left side. The left adrenal was markedly hypertrophied but there was a question as to whether an adenoma was present. The blood pressure after several days dropped to 140/90. However, it remained at that level only a few days and when she was discharged from the hospital three weeks later, the blood pressure was 190/120. She has been given twenty x-ray treatments since the second operation. Her blood pressure has dropped to 174/106 and her symptoms are greatly improved. The retinal lesions have cleared up and she is undertaking social engagements not previously indulged in for many years.

A physician experienced some symptomatic relief and a reduction in blood pressure from 240 to 180 systolic. By irregular treatments this state was maintained for about eighteen months. He then discontinued treatment and the pressure rose to the pretreatment level with a return of symptoms. He then underwent bilateral splanchnicectomy. The blood pressure, according to his report, shortly fell to normal and he became symptom free. However, this happy state lasted only about four months. The blood pressure returned to its preoperative level and the symptoms recurred. His course seems to have been steadily downward since that time and he has lately experienced some cerebral accident.

A number of men have used this method of treatment and report results shown in Table II:

TABLE II

Hypertension Cases of Other Men

	Cases	Cases Improved	
Martin	100	80	
Finch	44	28	
Baker	40	30	
McGuffin	40	30	
Boswell	12	11	
Konantz	6	3	
Parkhurst	5	3	
Hadley	4	4	
Miscellaneous	56	47	
	307	236	76.8%

A few men have reported using this therapy but without effect on symptoms or blood pressure. In every instance we have been able to investigate the doses have been heavier or too frequently or too close to the menstrual given with a different set of factors, or given periods.

An example of what happens when treatments are given too frequently is furnished by Mrs. E. J., the 52-year-old wife of a physician. We first saw her March 13, 1935. She had known of her hypertension for eight or ten years. She complained of headaches, emotional instability, heart consciousness, frequent severe hot flashes and inability to think clearly at times. Her husband said that because of this she had difficulty managing her household. Blood pressure was 260/130. She had her first x-ray on March 13, 1935. After that her blood pressure dropped to 170/110 and it was still at that figure on March 26, 1935, when she said—and her husband confirmed her statement—that she was apparently symptom free. Because she had traveled a long way and desired further treatment, the adrenal region only was irradiated with the same factors used for the first treatment. Two days later her blood pressure was 230/110 and her symptoms had all returned and with about the same severity as when she was first seen. She has continued to have treatment at various times since, and her blood pressure has been maintained around 185/85 and her symptoms are much milder than they were, but she has never been quite so well as she was before the second treatment was administered.

Lately we have seen a few cases of combined hypothyroidism and hypopituitarism with hypothyroidism and hypopituitarism with hypertension, in which the daily injection of five minims of pituitrin and five minims of antuitrin (not antuitrin-S) with one grain of thyroid daily by mouth restored the blood pressure to normal levels and relieved the symptoms.

Mr. L. D., a locomotive engineer, aged 72, complained of dyspnea and swelling of his feet for three years with pain and swelling of his abdomen for one year; vertigo and spots before his eyes and headache for the past few months. Diurnal somnolence was marked. Examination showed obesity (weight 222 pounds) of the thyropituitary pattern; distant heart tones with a systolic murmur over the aortic area; liver tenderness and a partial ventral hernia; narrow palpebral fissures; thin eyebrows and brittle nails. The blood pressure was right 186/90, left 180/80. There was a trace of albumen in the urine. Blood uric acid 5.5 mg., cholesterol 195 mg. The basal metabolic rates had been minus 9.6 and plus 7 per cent.

He was treated at first by rest, reduction diet and digitalis. This had no favorable effect on his complaints. Later, because of his obesity, diurnal somnolence, mental retardation, narrowing of the palpebral fissures, thin eyebrows, high uric acid and cholesterol, it was thought that he had a thyroid and pituitary deficiency. He was consequently given five minims of pituitrin. This was followed in the next forty minutes by a fall in blood pressure from 184/84 to 144/60. The following day the injection of five minims of antuitrin had a similar effect. He was then given five minims each of antuitrin (not antuitrin-S) and pituitrin daily, and one grain of thyroid per day. On this régime his blood pressure dropped to 125/80, his edema and symptoms were relieved and he lost 35 pounds in weight.

We have studied the basal metabolic rate and the glucose tolerance of a number of hypertension patients. The results of these studies are shown in Tables III and IV.

TABLE III

Basal Metabolic Rate

Lower than —5%	61
—5% to plus 10%	76
Over plus 10%	63
	200

TABLE IV

Glucose Tolerance Tests

Blood sugar rose to:		Glycosuria
170-200 mg.	85	7
170-200 mg.	50	12
Over 200 mg.	76	31
	211	50

Whether the high renal threshold indicates some renal lesions not otherwise demonstrable we do not know.

The response of patients who had both hypertension and diabetes to this type of treatment is shown in Table V.

TABLE V

Hypertension and Diabetes

Improved as to both conditions	13
Improved as to hypertension only	8
Improved as to diabetes only	4
Improved but relapsed	1
Unimproved	2
Insufficient treatment	1
	35

By improved we mean the diabetic syndrome greatly improved or entirely disappeared and the symptoms and blood pressure were influenced as mentioned under Table I.

An example of the response of such patients to this type of therapy is given in the following case history:

Mr. C., a lawyer, aged 52, was referred by Dr. Don Smith, of Hope, Arkansas, on December 21, 1936. His diabetes was discovered in May, 1936, at which time he had a severe acidosis; hypertension had been present four or five years; no symptoms except that the left leg was cold and inclined to drag since a "spell" in May, 1936. Diet C. 90, P. 60, F. 90, insulin 22. Blood pressure 170/90. Blood sugar after breakfast and insulin 169 mg. Weight 155 pounds. The general examination was otherwise not significant. The urine, blood count and blood chemistry were otherwise normal. One x-ray treatment over the pituitary and adrenal regions was given December 22, 1936. He took his last dose of insulin December 24, 1936, and added 40 grams of carbohydrate to his diet. His blood sugar readings afterward were as follows:

12/24/36— 74.3 mg.
12/26/36—151.1 mg.
12/28/36—141.0 mg.
12/29/36—119.6 mg.
99.0 mg.
12/30/36— 87.7 mg.
12/31/36— 84.3 mg.
1/ 2/37— 71.1 mg.

His blood pressure fell to 120/70 on December 24, 1936, and rose to 150-160/95-105 on January 2, 1937. He was seen again December 13, 1937, when his blood pressure was 165/95 left, 180/105 right. He was given another x-ray treatment December 13, 1937. His blood pressure December 18, 1937, was 160-145/80; blood sugar 115 mg.; weight 186 pounds. February 6, 1939, his blood pressure was 145-150/84 and his blood sugar was 92.1 mg. A letter dated March 5, 1940, says his blood pressure is 166/82 and he is sugar free.

Results in the human diabetic without hypertension have not been so good as among hypertensive patients or in the experimental animal. Barnes[5] irradiated the pituitary and adrenal regions of a series of pancreatectomized dogs. He used the same machine and about the same factors of treatment as were used in the treatment of our patients. The severity of the diabetes was reduced on an average of 50 per cent. Barnes was of the opinion that most of the results were due to the effect of the irradiation on the adrenals.

While most diabetics have shown no response to this therapy, a few have been definitely benefited as indicated by the following case histories:

The diabetes of Mr. S. G. was discovered in 1926 when he was 42 years of age and weighed 200 pounds. He could not be persuaded to stay on any reasonable diet and October 9, 1929, his blood sugar was 200 mg. During an attack of rheumatic fever in 1931 he began taking insulin ten units night and morning. This continued without change and with little supervision until 1933. In December of that year he was given two x-ray treatments. After the second treatment he became sugar free and discontinued the use of insulin. During the Christmas holidays of 1933 his diet was even less restricted than usual and he developed mild glycosuria. A third x-ray treatment to the pituitary and adrenal regions was given January 19, 1934. He shortly became sugar free and has continued without glycosuria on hyperglycemia.

Mrs. F., 62 years of age, had had diabetes for three years when she was first seen December 27, 1933. She had been in the hospital twice for acidosis and infections and had been unable to work for two years because of pain in her shoulders and arms. She was taking twenty units of insulin per day. After four x-ray treatments she became sugar free and had frequent blood sugar determinations since these treatments were given. In every case the sugar has been on the high side of normal except in December, 1935, when it was 180 mg. Of course, it is not unusual for diabetics to experience an increase in carbohydrate tolerance and be able to discontinue using insulin. However, they rarely do so while gaining weight. This woman has gained twenty pounds since x-ray treatments were started.

About one-third of the diabetics have experienced some symptomatic improvement and an increase in their carbohydrate tolerance; another third have claimed symptomatic improvement but have shown no change in carbohydrate tolerance. The others have been entirely unaffected.

The Safety of This Procedure. This treatment has been criticized on the ground that it is dangerous and apt to damage the pituitary or adrenals or both so that the patient would merely exchange his hypertension for pituitary deficiency or Addison's disease.

The tolerance of these and their neighboring structures to much larger doses of irradiation was determined by other men long before this work was undertaken. Men who have made this criticism either have paid no attention to the dosages we have used or have not been familiar with x-ray dosage.

Furthermore, in our experience, heavier doses, still not within the bounds of that heavy enough to do any harm, have not been effective in relieving symptoms or reducing blood pressure. About five years ago we gave to a few patients heavier doses, using the following factors:

Part	KVM	Port	Filter	STD	Ma.	Time	Dosage in r
R. pit.	180	10x10 sm.	1 mm.Al. 0.25 mm. Cu.	50 cm.	5	15. min.	140
L. pit.	180	10x10 cm.	Same	50 cm.	5	15. min.	140
Adrenals	180	15x15 cm.	Same	50 cm.	5	20 min.	190

These treatments were invariably followed by headache, vertigo and weakness. Tinnitus and nausea occurred occasionally. There was no relief of the symptoms associated with the hypertension and practically no reduction in blood pressure. After waiting six weeks, these patients were given the usual small dose already mentioned. These small doses were followed by relief of symptoms and reduction in blood pressure.

In two of those cases receiving heavier doses we were able to secure biopsy material from the adrenals; in one of them the pituitary was removed at the postmortem examination. The pathologists reported that the sections showed no sign of x-ray damage. There has never been any clinicial evidence of pituitary or adrenal damage.

An indefinite number of x-ray treatments can be given with no ill effects. We have given more than forty treatments each to a few patients without the slightest sign of damage.

It has been said that the results following this therapy are due to suggestion and not to x-ray. There is no way of proving conclusively that this is not partly true. But we have tried to minimize the effects of psychotherapy; and, preceding the giving of the heavier doses which were not effective, we suggested to the patient that the doses were being changed as to be more potent.

Conclusion. Essential hypertension and diabetes mellitus resemble each other in so many respects as to suggest common etiological factors in many cases. The endocrine components appear to be pituitary, adrenals and thyroid. Low-dosage irradiation applied to the pituitary and adrenal regions has been followed by symptomatic relief and a considerable reduction in blood pressure in most cases. In some this reduction in blood pressure has been a temporary affair which could not be maintained by subsequent treatments given when indicated by a rise in blood pressure. In many cases the symptoms did not recur when the blood pressure returned to the pretreatment level. A few cases of hypertension have been seen in association with pituitary and thyroid deficiency. In these the blood pressure returned to normal levels and symptoms were relieved following the administration of thyroid and extracts of the anterior and posterior lobes. In a small series of patients having both hypertension and diabetes the latter appears to have been greatly improved in about 50 per cent of the cases following irradiation of the pituitary and adrenal regions.

This form of therapy is an entirely safe procedure and can do no patient any harm if used in the dosage and by the method we have employed. It seems to possess sufficient promise to warrant careful investigation by other workers.

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Cataract—Points of Interest to the General Practitioner*

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THE PURPOSE of this paper is not to discuss any new discoveries in regard to cataract but merely to refresh our minds with certain well-established facts which we all should know. It is not a discussion of minute details, but a presentation of general facts about which all of us should have knowledge in order to advise our patients intelligently.

Aside from the academic interest in the differential diagnosis of cataract, there is also a practical side to it, and this application is what helps us to conclude in our own minds the judiciousness of advising for or against surgical treatment and the functional result that will be obtained by such a procedure.

It goes without saying that the earlier the diagnosis is made in any disease, especially in chronic degenerative diseases, the better the chance of stopping the process. Most cataracts can be diagnosed in their very earliest stages if only a thorough examination is made by a competent eye physician.

A thorough study should be made of the case as often facts brought out in such a study may reveal etiologic factors which will largely influence the management of the case, as hereditary influence, faulty dietary habits, focal infection, systemic disease and other ocular disease. It is the tendency of many examiners to take too much for granted, relying almost entirely upon the ophthalmoscopic appearance of the cataract and the patient's light perception and projection. While he may make an accurate diagnosis as to the type of cataract, he has failed to acquaint himself with the facts leading up to the formation of the cataract. In this respect a competent internist is of inestimable value to the ophthalmologist.

Secondly, the pupils should be dilated and an intensive examination of the eye made with the ophthalmoscope and slit-lamp. If opacities are found their extent and situation should be recorded in order to gauge the progress of the cataract at subsequent examinations. It should be noted that the cataract is the simple senile, cortical, perinuclear or nuclear; also if any other eye disease is present, as choroiditis, uveitis, retinitis, etc. If one of the latter is present it is important to determine how much of the visual loss is accountable to each lesion, both for the purpose of planning treatment and giving the patient at least a fair idea of how much benefit is to be derived following extraction of the lens.

Luther Peter states: "Much can be done to arrest cataract." In reply to the question, "Can cataract be prevented?" he says: "Emphatically yes, in many instances." If the eyes were examined every third year after the age of forty many general conditions and many cases of cataract in the earliest stages would be recognized and treatment instituted to prevent their further development. Before the age of forty if the individual complains of headaches of undetermined origin, impaired vision and inflammation of the lids, an eye physician should be consulted; after forty, examination of the eyes should be made without consideration for the presence or absence of symptoms. If the patient waits until sight is impaired before consulting an eye physician, or if the proper effort is not made to find and eliminate the cause or causes, operation becomes inevitable. This also involves an additional risk. In making the diagnosis of cataract one must be extremely careful that the condition is not glaucoma, as this, also, commonly affects the eye during the same age period. Like cataract, if recognized in its early stages it is amenable to proper treatment, but if recognized only after vision is much reduced, the danger of ultimate blindness is great.

As to the non-surgical treatment of cataract, present opinion is divided. One group, Vogt and others, considers cataract as a normal biological phenomenon of senility, comparable to graying of the hair and as little amenable to treatment. Others, however, believe that factors in the general condition, abnormalities in nutrition, metabolism or function of the ductless glands are important in the causation and progress of cataract and that treatment directed at one or more of these factors is justified.

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*Read before the Pike County Medical Society.

Concerning the surgical treatment of cataract, the two major problems confronting the surgeon are when to operate and what type procedure to employ.

In general, when a cataract should be removed is dependent upon many factors, each of which must be considered in its relation to the individual case.

The choice of operation is a difficult question to decide, and while it is true that certain conditions present in each individual case are influential in determining the type procedure to select, I have come to believe that the choice of operative technic should depend to a very large degree upon the skill with which the individual has developed his own modification of some particular technic.

Regardless of the skill of the operator and his knowledge of the parts involved, there are times when unforeseen situations are encountered which require very complicated procedures. These are largely due to the pathologic condition of the eye, poor choice of procedure and bad conduct on the part of the patient.

As a rule, age is not a factor in cataract extraction.

Systemic disease is usually considered a contraindication to operation when the general condition of the patient is such that the operation may precipitate a serious crisis or so seriously influence the result that it is not advisable to undertake the operation, at least without further preoperative preparation.

It has been well stated that the management of postoperative complications begins with the initial visit of the patient.

As to prognosis, if a patient gives a history of visual changes before the formation of the cataract, it would be unreasonable to expect remarkable improvement following extraction in an already diseased eye. With all of the means of diagnosis at our disposal, our ability to reduce the disappointing end results is increasing, as is our ability to predict within reasonable limits the approximate visual acuity the patient may expect. The chances of recovery are generally excellent and the patient is usually able to resume occupation after operation at least in a moderate degree.

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Concomitant Convergent Squint in Children

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CONCOMITANT SQUINT is a most interesting subject; in fact, I think it is one of the most fascinating subjects in ophthalmology. In a paper of this nature it is impossible to go into much detail of such a large subject. I think it would not be amiss to classify the types of squint before we discuss the concomitant convergent type. Squint is divided into the concomitant or non-paralytic and the paralytic types. This gross classification is self-explanatory. The concomitant classes are further divided into the following: 1. Convergent squint or esotropia. 2. Divergent squint or exotropia. 3. Vertical squint or hypertropia. The convergent and divergent squints are further divided into monocular and alternating types depending on whether the patient always fixes with the one eye as in the monocular or whether he can alternately fix with either eye. The above classification which is listed below with slight additions is very serviceable in the classification of squint cases.

1. Concomitant or non-paralytic squint
    A. Convergent or esotropia
        a. Occasional
        b. Incipient
        c. Permanent
            1. Monocular
            2. Alternating
    B. Divergent or exotropia
        a. Monocular
        b. Alternating
    C. Vertical or hypertropia
2. Paralytic squint.

The differential diagnosis between concomitant and paralytic squint should be made and is as a rule not particularly difficult. The main points to be kept in mind in making the diagnosis are: (a)In concomitant squint the angle of deviation from the normal visual line remains practically the same as the eyes are rotated from extreme right to the extreme left. This characteristic of concomitant squint usually readily distinguishes it from the paralytic type in which the angle of deviation increases as the eye is rotated toward the field of action of the paralyzed muscle. (b) As a rule in concomitant squint there is no limitation of rotation, unless the squint is of long duration. (c) In paralytic squint the primary deviation of the paralyzed eye is less than the secondary deviation of the normal eye. (d) In paralytic squint the patient often complains of diplopia or gives a history of having had a diplopia at some past time, whereas in concomitant squint there is no diplopia, as the patient has learned to suppress with one eye, and usually suppresses with the eye that deviates from the normal visual line. The diagnosis between monocular and alternating squint is usually easily made by the application of the cover test.

I shall only mention two other types of concomitant squint other than the monocular and alternating types. The occasional esotropia, which may be observed in normal infants during the first three or four months of life, is sometimes seen in a child suffering from a digestive disorder or some other ailment which may cause the child to suffer with pain. This type of squint is usually fleeting in character and does not require any treatment. The incipient squint may occur throughout the first year of life, is more frequent in its recurrence, and may last for quite a few moments. If the deviation is noticed after the child is three months of age, the child should be observed frequently to determine whether this condition will become permanent squint of the monocular or alternating type, and if so treatment should be started as soon as possible.

A few salient points as regards squint in general should be mentioned. Remember that if the fusion faculty is normal there is no squint. In observing a case of squint, the amount of squint present is the total amount of squint of the two eyes. It is impossible to make a positive diagnosis of squint in a child under 6 weeks of age. The fusion faculty is present and developed at age of 7 years if it is going to be, therefore squint cases should be seen early and treatment instituted before this age.

The condition of the fusion faculty should be investigated in every case of squint. Soon after birth a normal child may fix on a light in a darkened room with one or both eyes, but soon one eye wanders and he is fixing with only one eye. The ability to keep both eyes fixed on an object grows in strength and at the end of a year the fusion is fairly well developed. This fusion continues to develop up until the age of 7 years. If there is a normal fusion faculty there will be no squint. I have repeated this last statement for emphasis. It is apparent from the above statements that the condition of the fusion faculty is the most important factor in the treatment of squint.

ETIOLOGY

We shall have to discuss the etiology of monocular and the alternating types separately. In the monocular cases fusion is the most important factor, as some degree of fusion is always present but the degree present varies with the individual cases. The patients with monocular type of convergent strabismus often have a high hyperopic error, with varying amounts of astigmatism and sometimes there is an anisemmetropia present. The squint itself is not essentially hereditary, but the refractive error and the defective fusion are probably handed down. All of us have heard a parent say that the child, following an attack of whooping cough, measles or some other childhood disease, or following a fright, was noticed to have one eye turning in. These precipitating causes will only bring out a squint in a child who has a defective fusion faculty. In the alternating type, fusion is absent, and in this way heredity may play a part. The refractive error is small, and usually of no consequence in the treatment of these cases. The vision in an alternater is usually good in each eye, whereas in the monocular type there usually develops an amblyopia in the squinting eye. If amblyopia is present, as it often is in the monocular type, the improvement or recovery depends on the degree of visual loss, age when treatment was instituted and of course the absence of organic macula pathology.

Before the treatment of any case of squint is instituted the following should be carried out: 1. The vision should be obtained to determine whether amblyopia has developed. 2. Study the power of fixation of the eye by the cover test or by the flashing of a bright light into each eye separately and allowing the patient to fix as the light is thrown into the eye. 3. An accurate measurement of the angle of squint should be made on the perimeter, with the Priestley Smith Tape, or with loose prisms and the Maddox rod. 4. Make a study of the fusion faculty with the hand stereoscope and Wells cards. 5. Do an ophthalmoscopic examination to be sure there is no lesion in the fundus.

TREATMENT

Never tell a parent that the child will outgrow the squint, as one rarely ever does. In the treatment of convergent concomitant strabismus of the monocular type there are four objects to try for attainment, namely: (1) Correct the refractive error under full cycloplegia, and atropine in children is still the cycloplegia of choice. The refractive error as found under cycloplegia should be cut only a very small amount if the patient is a hyperope and a fair amount less of minus correction given if a myope. The patient should wear the glasses from time of arising to time of retiring. (2) If amblyopia is present, the eye with the better vision should be patched as much of the waking hours as is possible, in order to make the patient use the amblyopic eye so as to improve its vision, before the fusion faculty can be trained. As vision in the amblyopic eye improves, the child should be made to read if possible, and to play with small objects while the eye with the better vision is occluded. Adhesive tape over the lens of the glass over the better eye is not satisfactory, as the child can turn his head and look out the side. During the time the child is wearing an occluder, the vision should be checked frequently and observations and examinations of the eyes made often. (3) As the vision in the amblyopic eye improves, the training of the fusion faculty should be begun. There are many instruments used for this purpose but I believe the synoptophore to be the instrument of choice because the angle of deviation of the eyes can be compensated for by the placing of the prisms of the instrument at the angle of squint at which the patient has. Exercises with the prisms properly set can be started, and according to Peter[1], if the patient has less than 15 degrees of convergent squint of the monocular type about 50% can be cured without operation. If the child is less than 7 years of age the synoptophore should be tried for 6 months in the mild cases and then if there is no improvement, an operation should be done. If the child be over 8 years of age and if after one month there is no definite improvement, operation should be performed. (4) Perfect alignment of the visual axes, and restoration of singular binocular vision with steroopsis is the desired result in all cases. If the degree of squint is more than 15 degrees, the child should have training on the synoptophore, followed by operation and then more training on the synoptophore and the hand stereoscope. I shall not discuss the types and advantages of the different operations. In the treatment of alternating squint any refractive error should be corrected. As there is no fusion present in true alternating squint, training with the synoptophore is usually of no aid but should be tried for a short time. There is no amblyopia in these cases so the occluding of one eye is unnecessary. If the amount of squint present is enough to annoy the patient from a cosmetic viewpoint, then the eye should be operated on with the hope of getting only a cosmetic result and little or no hope of obtaining binocular single vision or stereopsis.

CONCLUSIONS

1. The diagnosis between concomitant and paralytic squint should be made as well as the differentiation between the monocular and the alternating types of concomitant convergent squint.

2. One should not make the diagnosis of squint in a child under 6 weeks of age be-

cause no one can be sure of the diagnosis at this age.

3. If the fusion faculty is normal there will be no squint, and as the fusion faculty is fairly well formed at one year of age, and most men agree is fully developed by age of seven years, these squint cases should be diagnosed and treated at earliest possible time.

4. Never tell a parent that a child will out grow a squint, because if the squint is definitely present it is rarely ever outgrown.

5. Excellent results are being obtained with the synoptophore alone in cases of mild degree, and with the synoptophore plus operation in cases of more severe degree.

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414 Standard Life Bldg.
Jackson, Mississippi.

Gas Gangrene Following Apparently Clean-Cut Amputation Right Forearm Subsequent to Severe Electrical Burn*

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THE EXTENT and severity of an electrical burn following contact with high voltage power line is at first examination difficult to determine. In a patient surviving the shock there are many manifestations of the electric current. It is surprising that a current sufficient to produce such extreme effects does not always cause death. Locally, at the point of contact with the wire or other metal the tissue damage will be greatest, consisting mainly of a deep cauterization with varying width of gangrene due to the heat produced by the electrical arc. Where the current leaves the body or extremities due to grounding there will be similar burns of lesser degree. The passage of the huge amount of electricity through small parts such as the hand, arm or foot and leg produces also considerable tissue death, the extent of which cannot be determined until inflammation has a chance to develop.

Almost always unconsciousness is the immediate and most prominent systemic symptom. If not fatal it lasts usually only a short time, leaving the patient disoriented and dazed. The effect on the heart varies from no detectible sign to fibrillation. Heart block is not unusual, lasting only a short time.

The treatment of burns following electrical injuries consists of general supportive measures and sedation, limited debridement, tannic acid application for milder burns and saline wet packs for the more severe. On account of the large amount of dead and devitalized tissue, rigid asepsis should be maintained. For the same reason prophylactic tetanus antitoxin should be administered. The saline wet dressing facilitates the separation of sloughs which should be removed as the zone of demarcation develops. The solution of azochloramid 1-3300 wet dressing seems to be more efficient than the saline. It takes weeks usually before a definite estimate of permanent loss of structure can be made. Muscles, tendons, nerves, and vessels especially veins, suffer more external damage than does the skin, which is often undermined by necrotic tissue.

Infection by the usual pus-forming organisms is kept at a minimum by the wet dressings. It is a well-known fact that Dakinization or the use of the newer chlorine antiseptics which promote dissolution of dead tissue lessens the chance of anaerobic infection. Obviously all macroscopic dead tissue should be removed surgically. All pockets should be flushed daily with hydrogen peroxide. As long as devitalized tissue is present it is a potential source of anaerobic infection, providing, of course, that the tissue has been contaminated.

Other than the tetanus organism the anaerobes causing the most serious consequence belong to the gas gangrene groups, namely: clostridium welchii, clostridium novyi, and clostridium oedematis maligni. All of these grow best on ground up or dead muscle whether it is in vitro or in vivo. All produce gas, the Welch bacillus producing the greatest amount. All are large gram positive bacilli. The Welch bacillus, which is the responsible organism in 60-80% of the cases, produces two true exotoxins, one having a local necrotizing effect on the tissues directly contiguous, the other causing a systemic action. The three phases of this type of infection are edema, gas in tissues and gangrene, but seldom are these seen separately.

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*Presented at King's Daughters Hospital Staff Meeting, March 6, 1940.

The edema is characteristic, producing severe pain and tenseness of the part. The skin is usually discolored, being either bluish or brown—as if from a subcutaneous hematoma. Tenderness is marked and is deep. Palpation often elicits crepitus due to the gas in tissues. This can be better demonstrated by using a stethoscope. If the wound is opened up one notices the unmistakable odor of gas gangrene and the peculiar exudate of hemolyzed blood. Bubbles of gas may appear. The tissues have a cooked appearance and the muscle, if pinched, does not contract. In the face of all these signs and symptoms, the gram stain is sufficient to provide a diagnosis. If only the painful edema is present one may make sure by innoculating a tube of meat broth or meat agar and incubate for ten to twelve hours. If gas infection is present the media will be broken up by bubbles of gas.

Gas gangrene cannot be treated conservatively. If it is fairly well limited to one or two muscles these can be removed in their entirety, the wound packed with sulfanilamide, large doses of antitoxin administered, and one or more doses of x-ray therapy applied. More extensive surgery is indicated in case of more involvement. In an extremity with gangrenous involvement encircling the limb, amputation is necessary. It is not safe just to open up the wound and do a debridement. Formerly oxidizing agents were used, but the sulfanilamide has replaced them. It is given by mouth or parenterally as an adjunct to its local application. In early suspicious cases x-ray therapy is of great value. Its action is not thoroughly understood, but it does cause remarkable regression of signs and symptoms. The value of serum has been argued pro and con for years. The cost of it has been almost prohibitive to its use. In large doses, however, it does relieve the toxic symptoms which, after all, are responsible for the death of the patient.

In the following case of gas gangrene subsequent to electrical burns the gangrene was not a direct sequela of the burns, but it developed in an apparently clean amputation.

CASE No. 36103: White, male, aged 26, married.

C. C. About 11:30 A.M. December 14, 1939, patient accidentally caught hold of a power line that was knocked down by a tree that fell across road in storm of December 12, 1939. He was knocked unconscious and received burns of right hand, wrist, elbow, right ankle, face and soles of both feet. Upon recovering senses he remained in a dazed condition for an hour or more.

Past history: Usual childhood diseases. Had osteomyelitis right femur with recovery.

Physical examination: Fairly well developed, undernourished, white male, aged 26. Mental condition poor, dazed, suffering excruciating pain.

Heart: Rate slow, labored, regular.

Lungs, abdomen, and genito-urinary—normal.

Severe burns as follows: Deep transverse cauterized groove at proximal flexor crease second, third, fourth, and fifth fingers. Fingers, hand and wrist appear pale, rigid, and swollen. The swelling extends up to elbow; here flexor crease shows a deep third degree burn. Similar burns at right axilla. Left side of face below and above left eye shows second and third degree burns. The palmar surface of both feet show about seven to eight deep third degree burns on each—at heel, along lateral border and distal ends of metatarsals.

Treatment: Patient given morphine grain one-half, nembutal grains three, rectally. Burns were scrubbed with soap and water, irrigated thoroughly, tincture merthiolate applied and tannic acid—silver nitrate eschar applied. Patient put in heat tent. Prophylactic tetanus antitoxin mixed with B. Welchii and vibrion septique antitoxin given. Azochloramid 1-3300 wet dressings were applied to right upper extremity, the fingers of which began to show gangrene by the third day. Sloughing was thence forward fairly rapid. It was first thought that the thumb, index and middle fingers could be saved, but on December 26, 1939, the wrist was disarticulated. The skin by now had sloughed about two inches above wrist joint on dorsal and three inches on volar surface. The volar muscle on ulnar aspect of forearm sloughed halfway to elbow. This caused a pocket under the skin, which was packed daily with gauze saturated with azochloramid. The other burns progressed nicely. The eschar on face and feet remained dry and the tissue beneath clean. The burn at the elbow crease sloughed cleanly.

On January 14, 1940, under brachial plexus block the right forearm was amputated through the mid third. Some of the skin removed was used to cover defect at elbow. At the time of amputation and the previous week the forearm had been normal size and devoid of tenderness. The patient's temperature had been normal for nearly three weeks. On the second post-operative day the patient complained of severe pain in stump which felt swollen. The temperature was 101 degrees. When the dressing was removed the forearm stump, elbow region and lower arm especially medial aspect were seen to be greatly swollen, tense and discolored. Tenderness was marked. From the drain there appeared a foul smelling exudate typical of gas gangrene. A smear was made and a pure culture of large Gram positive bacilli were found. This was enough to make a diagnosis of gas gangrene. Immediate modified guillotine type amputation was performed at level of deltoid insertion. The medial muscles were dissected out at their origins. Skin flaps were made long and sutured loosely to hold sulfanilamide powder which was packed into the wound. The patient was given 20,000 units gas gangrene antitoxin which was repeated the next day, when he received also a therapeutic application of x-ray.

Convalescence was uneventful, temperature was normal in two days and there was no infection at amputation site. The burns of face had already healed completely. The burns on feet responded slowly but steadily. Patient was discharged from the hospital on February 12, 1940, with the amputation stump almost healed and only a small area on plantar surface of right foot that showed healthy granulations.

After leaving the hospital the patient was seen regularly and all wounds were healed on March 4, 1940.

The possible exogenous source of gas infection in this case can be completely disregarded. For several days preliminary to the forearm amputation the part had been surgically prepared by shaving, cleaning with ether and applying tincture of merthiolate. The granulating areas were kept wet with 1-3300 azochloramid solution. The source of infection undoubtedly was from bacilli that were living in the dead and devitalized tissue undermining the skin on the medial aspect of the forearm, even though the pocket had been completely obliterated by apparently healthy granulation. Why gas gangrene had not developed prior to the amputation is explained by the fact that probably the prophylactic antitoxin had so far protected the patient. The trauma of the operation to the already damaged muscles was the spark needed to start the gangrene process.

An interesting sidelight to this case is the fact that the power line carried approximately 8000 volts. In the electric chair, however, the voltage is much lower. The process of destruction is usually as follows. "1800 volts and fifty volts until half a minute has elapsed, for five to seven seconds, then two hundred then 1800 volts for three to five seconds, again two hundred and fifty volts until one minute has passed and finally 1800 volts for three to five more seconds before the contact is broken. The ammeter shows that from seven to ten amperes have passed through the body." (E. A. Spitzka, Journal Med. Soc. of New York, 1909). Why a lower voltage is more deadly than a higher one is explained by the fact that by reducing the voltage in a current the amperage is raised. This causes an enormous increase in body heat—which is usually around 120 degrees following electrocution.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

The seventy-third session of the Mississippi State Medical Association convened in the capital city May 14-16, 1940. As a prelude, on May 13, the Mississippi Chapter of the American College of Surgeons and the Mississippi State Pediatric Society had their respective meetings. The thirty-seventh annual session of the House of Delegates was called to order at 9 o'clock A.M. by President J. P. Wall, the gavel immediately turned to Speaker J. Rice Williams, and the order of business taken up. The proceedings will be published in this journal as heretofore.

President-elect W. H. Anderson introduced a resolution that the Association protest to Paramount Pictures, Inc., against a proposed film that makes W. T. G. Morton, a Boston dentist, the discoverer and the first to use ether as an anesthetic. The U. S. Government has recently issued a red two-cent stamp bearing the likeness of a Georgia village doctor, named Crawford Williamson Long, and stating, "Performed first successful surgical operation under ether anesthesia at Jefferson, Georgia, on March 30, 1842."

Southern medical and similar bodies and individuals should protest to the film producers, who keep their ears attuned to the likes and dislikes of patrons.

The meeting in the convention hall of the Robert E. Lee Hotel where the public was invited was well attended. The welcome address on behalf of the Central Medical Society by Dr. John Darrington was characteristically good, as was the response by Dr. W. H. Anderson.

The president's address by Dr. J. P. Wall was of the highest class. It was effectively given without recourse to manuscript and in a pleasing oratorical manner. He delivered a sincere and well thought-out speech. He quoted Robert Louis Stevenson's celebrated Eulogy of the Doctor, which is a brief epitome of his address.

"There are men and classes of men that stand above the common hero, the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarer still the clergyman, the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with, only to be marvelled at in history, he will be thought to have shared but little in the defects of the period and to have most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art and never to those who drive a trade: discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are most important, Herculean cheerfulness and courage. So it is that, he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing."

At the banquet for the officers of the association, we had the happy pleasure of sitting opposite Dr. W. A. Evans, the world's best medical columnist and one of the state's most distinguished citizens, and hardby was the state's most efficient chief health officer, Dr. Felix J. Underwood. The cuisine was excellent and the whole affair quite pleasant.

The presentation exercises were inspiring. Dr. W. A. Evans presided with dignity and his remarks were timely. Judge Gerald Brandon, of Natchez, grandson of Dr. Monette, made presentation of a large picture of Dr. John Wesley Monette. Dr. Monette's diplomas, old family Bible and other data were on display.

Dr. Monette lived, worked and wrote in his home at Natchez, he was of French-Huguenot descent. His "History of the Mississippi Valley" is a classic and many of his writings, medical and otherwise, antedated his time. So Dr. Monette is Mississippi's first medical "Hall of Fame" member.

Dr. John Wesley Monette was born in 1803, died in 1852. On his monument in the private cemetery of his old home near Natchez is: "Distinguished Citizen of this State, Great Epidemiologist, Able Physician, Lecturer, Poet." He is justly entitled to be in the Mississippi Hall of Fame.

The Woman's Auxiliary to the state association was in session and the good ladies were having a fine time judging by their pleasant chattering and bantering. As a mere man we should think one woman would have a difficult time listening to another talking, since the men of the household have to. Anyway, this body of physicians' wives have accomplished much good and much more is promised. Mrs. E. C. Parker, of Gulfport, was selected to head the Auxiliary for the coming year. The ladies well understood and took due notice thereof, when it was stated, "The hostess received her guests wearing a gown of powder blue sheer with corsage of sweetpeas." It was related that woman was taken from man's side in the beginning and it has also been related that she is still endeavoring to get back there. All we can say about it is: if she wants to she will, and that is an end of it.

The world was sad,—the garden was a wild;
And Man, the hermit, sigh'd—till Woman smiled. —Campbell.

Many papers of value were read and discussed, the last two being typical, Breast Cancer, Its Treatment and the Cautery Technique of Operation by Hugh A. Gamble, Greenville. (Illustrated in technicolor). Much has been said and written on this important subject but Gamble had his topic well in hand and he answered numerous questions to the satisfaction of all and in a professorial manner.

A worthy surgeon of Houston, Dr. Van Buren Philpot, had an article and pictures that well illustrated an interesting operation, cesarean section. His photographer is a negro man that has been with and under the instructions of the doctor a number of years.

Dr. Lyle Motley, Memphis, speaking on indigestion, said that at times the simplest remedies prove valuable, and to the contrary complete hospitalization, trained nurses and extensive paraphernalia are ineffectual.

I ordered an article recently from Boston, Mass., it seems that I could not get it elsewhere. The price was one dollar. I sent them fifty Crawford W. Long two-cent stamps. A person named Morton lived there in the late forties; a famed scientist, one Jackson claimed that Morton filched from him his data about anesthesia, but Long, from the South, had the priority of claim.

We thought Oxford University had a fair claim for our 1941 meeting, but we hope to see you in Biloxi by the sea a year hence. A good selection was made for president-elect when Dr. Augustus Street, a surgeon of Vicksburg, was chosen by acclamation. The councilors for the first three districts were reelected by an imposing majority. The council can be compared to the senate of a governing body. About 33% of this body is elected annually which keeps experienced members to guide smoothly the matters that come up before it.

The president, or chief presiding officer, of our association has little presiding to do; the speaker or the section chairman is in charge except at the public meeting when the president of the local medical society presides.

The Ewing Fox Howard Oration by Dr. Irvin Abell, of Louisville, Ky., on "Some Contributions of the Profession to the Public," was a masterful address, combining the thinker and the orator. Dr. Abell is a past-president of the Southern and of the A. M. A.

Because of advances made in science and the medical profession, the mortality rate for tuberculosis has been reduced as much as 60 per cent in the past three decades. Pneumonia and influenza deaths have been reduced 24 per cent, measles 87 per cent, pertussis 59 per cent, diphtheria 90 per cent and scarlet fever 87 per cent in the same period, and the life span increased nineteen years. The progress is continuing due to the ceaseless and unselfish service of the physician.

The social features were not neglected. Particularly we would make mention of the Annual May Day Pageant, "Festival of Roses," at Belhaven College:

Reproduced in Honor of
MISSISSIPPI STATE MEDICAL ASSOCIATION
May 15, 1940—8:00 P.M.

I made a garden for my soul
To walk with God at close of day.
Where many take an idle stroll
I made a garden for my soul,
With shadowed path and rose-decked pole,
To others it is earthly gay.
I made a garden for my soul
To walk with God at close of day.

—ELIZABETH NEWMAN.

There is a garden of surpassing grace, a land where only loveliness dwells. It is called the realm of beauty. There, transcending this human plane, unfolds a drama supernal, a pageant of color, magic, charm, which only the fair, only the pure, only the good may behold.

The rendition by the pupils of this fine college was superb indeed.

—L. L. MINOR

THE N. P. C. FOR E. M. S.

Since the advent of the New Deal the American public has been surfeited with alphabetical agencies. Up until three or four years ago these agencies did not materially or very directly affect the medical profession of America, as a whole to any appreciable degree. However, unless the medical profession of America as a whole arouses itself, it will not be long before there will be a governmental alphabetical agency of some sort that will greatly affect each and every practicing physician in the United States.

The N. P. C. for E. M. S. which captions this editorial is the National Physicians Committee for Extension of Medical Service. Every physician in the United States should thoroughly familiarize himself with the aims and object of this committee and render unqualified support for the work that this committee is doing and proposes to do in the future.

On the executive board of the committee will be found many stalwarts of American medicine. These men are familiar with the problems facing the doctors of America and have bonded themselves together to fight the ever-increasing menace of the regimentation of the American doctors.

The N. P. C. was organized last November. There seemed to be a universal understanding of the need of such a committee. Organized medicine was sure that steps would have to be taken to inform the general public of the facts in connection with American medicine, and that steps should be taken to reach an understanding of medical needs and then work out remedies. This committee started in a small way by putting the machinery in motion to expand the committee, and it attempted to secure the co-operation of the leading physicians in every area of the United States. The committee now numbers 450 physicians with every state in the Union represented. From the beginning it was intended that as the work developed, state groups would automatically become a sort of Board of Governors for the entire institution.

This committee advocates the following:

1. The maintenance of independent private medical practice.

2. The preservation of our independent hospital system.

3. The centralization of health service of federal and state governments.

4. The determination of health requirements on the basis of locally gathered and locally interpreted data and the utilization of grants-in-aid only under conditions of locally demonstrated needs.

5. Control and disbursement of public health funds by administrators locally elected or locally appointed.

6. The committee will, to the fullest possible extent within its abilities and resources, familiarize the general public with its program and policies, private and public health needs, the achievements of and the position occupied by American medicine, the services rendered by physicians—how and where these services are available and will utilize to accomplish these purposes:

(a) The daily, weekly and trade papers.

(b) Magazines.

(c) Radio.

(d) Public meetings and the co-operation and service of their agencies which can effectively aid the objectives sought.

This new institution has the knowledge, the personnel and the machinery to perform vitally important service for the medical profession and to become an important aid in safe-guarding of public health. The degree of its effectiveness will be measured by the extent of moral and financial support contributed by physicians.

—F. M. A.

Much, entirely too much, has been said recently about the high cost of medical care. More, very much more, might, with all propriety, be said about the high cost of hospital and clinic care of the sick and near sick. Actual and necessary bedside care of the sick is no more expensive than formerly. But due to so much propaganda and camouflage, the sick and near sick are being overtaxed and overcharged. Since propaganda to the effect that correct diagnosis of disease can only be made by a "group of expert specialists" and that no single physician can properly treat any patient, even after diagnosis has been made, has gone abroad, the few who can afford to pay the price are caught in the squeeze and naturally they send up a loud complaint against the "high cost of medical care." Sickness that used to be diagnosed and treated by the family physician in the homes (where practically all sickness should be kept) is immediately carted off to some hospital, where less efficient care is given at a tremendous increase of expense. But few patients should be taken from home environment where conditions are such that ordinary conveniences can be had. Good nursing can be provided in the home just as cheaply and as certainly as in a "standard" hospital. Certainly a great many families do not have the room and bedding for the proper care of their sick, neither can they pay hospital expense. I feel that the government should provide hospitalization for these. But I feel that these people should be permitted to choose the physician that is to render the service they need. And the government should contribute to the pay of the doctor who is so chosen. The rural districts in Mississippi are short on doctors—the large towns have too many. The doctors in the country districts are the best and most capable in the state, but it is physically impossible for them to do the work. Something must be done to bring the young men who are coming out of the colleges to these outlying sections. If these young men can be led to understand that "good medical care" can be given in the country without sending their patients to some hospital, they will soon realize that the people can and will support them and will trust and honor them, I believe they will seek rural locations. Any Mississippi community can support a good doctor and pay a good nurse assistant. These very capable young men will soon learn that they can practice medicine outside of hospital walls. When they learn this they will receive and deserve the confidence and respect of the people whom they serve and will grow in self-respect as well. When young men graduate from our medical colleges, they are well grounded in the underlying principles and theories of medicine, but I am inclined to fear that the internships they are required to serve are hurtful to them. Many of them are taught to believe that they are not capable of standing alone. They go out from the hospital wards feeling that they are superior beings and at the same time they are as helpless as babes in the presence of serious sickness away from hospitals and hospital equipment. Whole-time teachers in our medical schools seldom have a background of large personal experience in the treatment of disease. They may, and usually do, have large knowledeg, but without extensive and long experience at the bedside, judgment is lacking. Knowledge, judgment and wisdom are prerequisites to teaching or practice of medicine. Knowledge can be attained, judgment can be acquired, but wisdom is the gift of the gods. Only a limited number of men possess all these attributes.

—G. S. B.

DOCTOR'S DAY

Senator Bilbo rises to a degree of approbation and suggests to that august body of which he is a member the plausibility of a "doctor's day" in our calendar of "days." His suggestion is a noble gesture. It seems very evident that the doctor is the forgotten man as far as the national government is concerned. The plan seems to have been more pay for every one else but the doctor, and less or none for him. Maybe the medical profession and the national government have not understood each other, maybe both are at fault on some points, but it is quite certain that the relation should be more cordial and co-operative. Certainly no profession has rendered more service to the people than has the medical profession. Yellow fever has been conquered, the death rate of typhoid has been reduced 91 per cent since 1900, diphtheria 95, diarrhea enteritis

89, and tuberculosis 73 per cent. The death rate from tuberculosis declined 41 per cent in England and Wales from 1921 to 1937, and in the United States 46 per cent. The death rate in infant mortality has declined about fifty per cent in this country since 1915. The maternal death rate has declined about one per cent per year for the last twenty years. Twelve years have been added to the life span since 1900, life expectancy now being 62 years. These are only a few of the outstanding accomplishments of the profession. In Germany where state medicine has been in vogue for a number of years, the length of sickness for the same disease has doubled. It is estimated that the medical profession in the United States does a million dollars' worth of charity practice every day. It takes more than money to buy medical service. The desire on the part of the doctor to serve the person who trusts his health to him inspires him to greater and nobler efforts than material reward without the trust and the appreciation on the part of the patient. But even so, if the doctor is to do his best work, to have the best training and to keep abreast of the rapidly growing medical science, to have the needed equipment that is demanded and still be able to support his family, he must be paid for his services. The burden is growing heavier as the days go by, especially in the small towns and rural communities of the South. In Mississippi we have 11 per cent less doctors than we had fifty-four years ago, and a population that is almost double. If we do have a "doctor's day" it would be quite interesting to stand every one in line and see just how many men and women who still belong to the doctor, "who have not been paid for." We dare say that there would be found many prominent ones in the line.

A doctor recently told us of doing a most delicate operation on the eye of an old lady. Her sight was restored and she was happy. She had no money, no charge was made. Later her two sons struck oil in Texas and became very rich. But it never occurred to them to remember the doctor for the eyesight of their mother. Among the saddest pictures we know is the one so common in the small town and rural community: The doctor who gives every ounce of energy he has, who does not stop to ask about money, often does not have time, who waits until all others are paid, who wears himself out and reaches an early grave; of course, he thinks surely when the faithful and sacrificing wife is left that those he had tried so hard to serve would see that she did not suffer, that she would be paid what was due her. But alas, it is seldom that she is remembered. It is hard for her to collect even a small per cent on just a few accounts.

A doctor's day might not be bad. The government is certainly benefiting by his services. The relation of the government and the profession should be very cordial and so should it be between the profession and the people.—THE BOONEVILLE INDEPENDENT.

Dr. A. Street was unanimously designated president-elect of the Mississippi State Medical Association at its seventy-third annual session in Jackson, May 15. Dr. Street is worthy and well qualified for this, the greatest honor in the gift of society. He is a splendid student and has kept to the front in medical progress. He has invested his means liberally in order to be able to give to his clientele the latest and the best known by the profession. Dr. Street has also taken time out to do his part in organized medicine. His professional life has brought dignity and honor to our association. He is a skilled surgeon, able physician, and expert diagnostician. "I know of no man who works harder for the ethics of his profession," says one of his confréres in his own city.

Dr. Street was born in Corinth, Mississippi. He took his premedical work at the University of Mississippi and was graduated in medicine from Columbia University, College of Physicians and Surgeons, New York, after which he interned at the Roosevelt Hospital in New York. In 1913 he was licensed to practice in Mississippi, located in Vicksburg and joined the Warren County Medical Society. During the World War he served with the American Expeditionay Force, Base Hospital No. 15 Chamount, France, from July, 1917, to the end of the war. Since that time he has been practicing in Vicksburg and doing his part in a liberal way for organized medicine. He is connected with one of Mississippi's best equipped and best ordered hospitals. He served as president of the Mississippi Hospital Asociation in 1937.

The doctors of Mississippi extend a cordial hand to the president-elect of their association.

Throughout the Southern states a feeling of profound loss is felt in the passing of Mrs. Seale Harris of Birmingham. She was the queen spirit of the Southern Medical Auxiliary, and her life aptly portrayed the womanhood of the South at its best. Her interest was ever alert in the cause of medicine and inspired the profession to nobler efforts. Her social standards and ennobling influence were felt throughout the nation. We offer our sincerest sympathy to Dr. Harris and to the entire family in their great loss.

June 10-14 the American Medical Association will hold its annual session in New York City. If it is at all possible you should attend this association. It presents the very finest scientific program and it is the place to carry many of our medical problems.

Next year the Mississippi State Medical Association will meet in Biloxi with the Buena Vista Hotel as headquarters. This is a delightful meeting place and the attendance should be good.

The program for the Mid-South next February is in the making and it bids fair to be a fine one. The last one scored very high. The Mid-South offers a fine postgraduate course in four days and nights. No other association just like it.

We have a call for a copy of September, 1930, issue of The Mississippi Doctor. If any one has this copy and will send it to us it will be greatly appreciated.

Please note that Dr. Minor has covered the recent state meeting in a very fine news article.

Dr. Lawrence Long was chairman of the entertainment committee in Jackson at the recent meeting. In this art he is a Ph.D.

We plan for the July issue of the journal to be the Monette number. We hope to make it one of our best.

We appreciate each and every one of our advertisers.

You should by all means have your journals bound with the completion of each volume.

News and Comments

ARTHUR THOMAS McCORMACK

PRESIDENT-ELECT OF THE SOUTHERN MEDICAL ASSOCIATION

At the Oklahoma City meeting last year, the Association inaugurated the custom of choosing a president-elect who was to have a year's training before his term, that meeting electing both a president and a president-elect. Dr. Walter E. Vest, Huntington, West Virginia, was elected president, and presided at the Memphis meeting last November. Dr. Arthur Thomas McCormack, Louisville, Kentucky, was selected for the 1940 presidency.

Dr. McCormack, who numbers among his warm friends a large proportion of the members of the medical profession in the Southern states, was born near Howardstown, in the hills of Nelson County, Kentucky, on August 21, 1872. His mother, Corinne Crenshaw McCormack, was the daughter of a Methodist minister. His father, Dr. J. N. McCormack, became interested in public health work in Kentucky during the cholera and yellow fever epidemics of the seventies, and Arthur McCormack was brought up helping his father in his work. With his mother he was sealing and stamping envelopes for the State Board of Health before he could read or write, since there were no paid clerical assistants to the Board of Health and no full-time health officers in America. Dr. McCormack, Sr., carried the responsibility for the work of the State Board of Health along with an arduous general practice for many years, laying the foundations for the present highly organized department with its eighty-eight full-time county health units. During the same period the senior McCormack was chairman of the Committee on Organization of the American Medical Association, serving with Dr. George H. Simmons, of Chicago, and Dr. P. Maxwell Foshee, of Cleveland. That committee prepared the constitution and by-laws of the American Medical Association which were unanimously adopted at the St. Paul session in 1901.

Arthur McCormack received his early education in Kentucky public schools and his B.A. degree from Ogden College, Bowling Green, in 1892. He took further academic work at the University of Virginia and received his M.D. degree in 1896 from the College of Physicians and Surgeons at Columbia University in New York. After an internship in Paterson, New Jersey, he entered partnership with his father in Bowling Green, in 1896, and did a general practice covering several counties with horse and buggy and a saddle horse. He did a large amount of surgery in the homes of his patients until 1904, when he established the St. Joseph's Hospital, then the only hospital between Louisville and Nashville.

He married Marie Moore Tyler in 1897. Their daughter, Mrs. William Nelson Wilbur, resides in Warrenton, Virginia. In 1924 he married Jane Teare Dahlman.

He served as health officer in Warren County from 1897 to 1900 and as Assistant State Health Officer from 1898 to 1912, when he was made State Health Commissioner and member of the State Board of Health, which offices he has held to the present time. He was one of the founders of the American College of Surgeons, of which he is a life fellow. Before the World War he was a lieutenant in the Medical Reserve Corps of the United States. He was commissioned lieutenant colonel and colonel in 1918 and organized Base Hospital Number 59, but was sent by General Gorgas to Panama to serve as health officer there for the duration of the War.

As a member of the Council of the State Medical Association Dr. Arthur McCormack developed the KENTUCKY MEDICAL JOURNAL and has been its editor since its beginning in 1903.

Both the McCormacks were associated closely with the organization and development of the Southern Medical Association and the son has been unflagging in his interest in its growth. He was Chairman of the Section on Public Health in 1917.

Honorary degrees held by Dr. Arthur McCormack are: M.A., 1900, Bethel College, Russellville, Kentucky; D.P.H., 1925, Detroit College of Medicine and Surgery, Detroit; D.Sc., 1926, Berea College, Berea, Kentucky; and LL.D., 1930, Transylvania College, Lexington, Kentucky.

He has been secretary of the Kentucky State Medical Association since 1907; a delegate to the American Medical Association since 1910; president of the American Public Health Association in 1937-8; president of the Conference of State and Provincial Health Authorities of North America in 1925; president of the Medical Veterans of the World War for two years and of the Kentucky Conference of Social Workers for three years. He is a member of the Cosmos Club in Washington, of the New York Southern Society, of the Pendennis Club in Louisville, and Knight Commander of the Court of Honor of the Scottish Rite Masons. In Louisville, he attends the Highland Presbyterian Church. His diversions are bridge and motoring.

His outstanding contribution to public health has been his insistence, following in his father's footsteps, on the responsibility of the medical profession for public health and extension of medical service.

Public health work in Kentucky has been directed by the McCormacks, father and son, for nearly seventy years.

In Kentucky, as in Alabama, control of all public health and medical service is largely in the hands of the State Medical Association.

Arthur T. McCormack has probably the longest tenure of authority in an important health project of any living man; which does not mean that he has reached a great age, but that he is one of those who spent even his childhood in this work, with inheritance of taste, ability and opportunity for its performance. The present Kentucky organization is one of the best in the country and is a monument to gifted endeavors of the McCormacks.—SOUTHERN MEDICAL JOURNAL.

The next meeting of the Southern Medical Association will be held in Louisville, Kentucky, November 12-15, 1940.

THE LOUISVILLE MEETING

(Editorial from the Southern Medical Journal, Vol. 33, No. 6, June, 1940, page 665).

Hobby and Art Exhibit

> "No man is really happy or safe without a hobby and it makes precious little difference what the outside interest may be."—Sir William Osler.

Many physicians indulge themselves in a hobby that invades the fields of fine arts, and frequently their excellent work is not only self-satisfying but interesting enough to display to their friends. Consequently, this year the Southern Medical Association is sponsoring a HOBBY SHOW to exhibit pictures, handicraft and anything its members may wish to present.

The exhibit will be non-competitive and open to physicians who are members of their state and county medical societies in the territory from which the Southern Medical Association draws its membership. The Hobby Exhibit will be placed near the Scientific Exhibit at the Louisville meeting. Any physician interested, who has a hobby to exhibit, is requested to write for a special form on which to give the Hobby Committee the information needed about the display. Forms may be secured from Dr. Jesshill Love, Chairman of the Hobby Committee, 1010 Brown Building, Louisville, Ky., or the Southern Medical Association, Empire Building, Birmingham, Ala.

The Arkansas Medical Society selected Dr. H. Fay H. Jones, of Little Rock, to be its president in 1941. He will succeed Dr. H. T. Smith of McGehee who was installed as president at the concluding session of the society's annual convention at Fort Smith. Dr. Smith succeeds Dr. A. S. Buchanan, of Prescott.

Other officers elected are Dr. I. F. Jones, Fort Smith, first vice-president; Dr. H. V. Kirby, Harrison, second vice-president; Dr. C. W. Vixon, Gould, third vice-president; Dr. R. J. Calcote, Little Rock, treasurer, and Dr. W. R. Brooksher, Fort Smith, secretary.

Five councilors selected are Dr. L. T. Evans, Batesville; Dr. S. W. Doubles, Eudora; Dr. H. E. Murray, Texarkana; Dr. F. A. Corn, Lonoke, and Dr. Clyde McNeil, Rogers.

A two-week course in electrocardiography will be given at the Michael Reese Hospital at Chicago from August 19 to August 31, 1940 by Dr. Louis N. Katz, Director of Cardiovascular Research.

You will enjoy the splendid write-up of the state medical meeting by Dr. L. L. Minor.

This journal offers its kindest sympathy to Miss Mamie Jones, of Amory, in the loss of her mother on May 8. Miss Jones was deeply devoted to her mother and used her skillful nursing to add to the days and to the comfort of her mother in her long illness. She is the efficient nurse of Dr. G. S. Bryan, for whom she has worked for about thirty-seven years. She has the spirit in abundance of the true nurse. We have wondered how Dr. Bryan could keep so well informed in all the fields of medicine and on all current topics as well. Miss Jones is in part the answer. For several years we have advocated, "For every practitioner a trained nurse." Miss Jones more than any one else inspired this idea, I dropped in Dr. Bryan's office and noted just how much she was to him and to all who came that way. It would be hard to estimate the good she has already done and her good work will live after her.

The Woman's Auxiliary is pushing the circulation of HYGEIA for the month of June. This is a fine work. It is the greatest of this type published. It is a great pity this informative journal is not read by every citizen in the country. The Woman's Auxiliary has done some fine work. It will do more. The organization had an able leader this last year in the person of Mrs. Hugh Johnson, of Vicksburg, and now Mrs. E. C. Parker is its very popular president. She will carry the organization forward.

TO THE OFFICERS OF THE SOUTHERN MEDICAL ASSOCIATION, GENERAL AND OF ORGANIZATIONS MEETING JOINTLY:

Following is a copy of a letter written to Mr. Frank Freeman, Vice-President of Paramount Pictures, Incorporated, enclosing the two resolutions embodying the action of the Southern Medical Association in 1921 and 1922 pertaining to the discovery of anesthesia, in protest to information regarding a film giving Dr. W. T. G. Morton this credit.

"Birmingham, Ala.
"May 9, 1940

"Mr. Frank Freeman,
"Vice-President, Paramount Pictures, Inc.,
"West Coast Studios,
"5451 Marathon Street,
"Hollywood, California.

"Dear Mr. Freeman:

"We have been informed that there is in the making, or under consideration for making, a film based upon the life of Dr. W. T. G. Morton, a Boston dentist, and in the film credit is given to Morton as the discoverer of anesthesia.

We wish to enter our protest to giving credit to Morton as the discoverer of anesthesia when that honor goes to Dr. Crawford W. Long. My organzation eighteen years ago gave a deliverance on this matter. Enclosed are verbatim copies of two resolutions unanimously adopted by the Southern Medical Association, at one of its annual meetings, November 1921, and the other at its annual meeting in November 1922. You will note that a committee of distinguished physicians of the South, after a year of investigation and deliberation, declares 'that Crawford W. Long, and none other, was the discoverer of anesthesia.'

"Surely Paramount Pictures would not be guilty of doing such a great injustice to the medical profession, to Georgia and to the South by giving credit for the discovery of anesthesia to a Boston dentist, Morton, when that honor belongs to a Georgia physician, Crawford W. Long.

"Very truly yours,

"C. P. Loranz, Secretary-Manager
"Southern Medical Association."

* * * *

IN RE DR. CRAWFORD W. LONG DISCOVERER OF ANESTHESIA

(Resolutions presented to and unanimously adopted by the Section on Surgery of the Southern Medical Association at the fifteenth annual meeting, Hot Springs, Arkansas, November 16, 1921. Referred to and unanimously adopted by the Association at its last general session November 17. [From Minutes of Hot Springs meeting, Southern Medical Journal, volume 15, number 1, January, 1922, pp. 84-85 and 74-75].):

Whereas, Unmistakable proofs show that Crawford W. Long used sulphuric ether to produce surgical anesthesia in Jefferson, Georgia, on March 30, 1842; and,

Whereas, Undoubted records show that this was the first time in history that ether was ever used for this purpose; and,

Whereas, We are convinced that Dr. Long did everything in his power, with the facilities at hand, to publish his discovery to the world; be it

Resolved, That the Surgical Section of the Southern Medical Association, in session at Hot Springs, Arkansas, November 16, 1921, declares that Crawford W. Long, and none other, was the discoverer of anesthesia, and is entitled to the credit and honor for an achievement of such inestimable benefit to medicine and to humanity.

Be it resolved further, That the Southern Medical Association in general session is requested to adopt a resolution similar to this one; and that a committee consisting of one member from each state represented in the Southern Medical Association be appointed by the President of the Association to investigate the merits of all claimants to the honor of being the discoverer of anesthesia, giving the matter proper and careful attention, and report at our next annual meeting.

(Report of the Special Committee of the Southern Medical Association provided for at the Hot Springs meeting, November 14-17, 1921, approved by the Council of the Southern Medical Association at the Chattanooga meeting, November 13-16, 1922, and unanimously adopted by the Association at its last general session. [From Minutes of the Chattanooga meeting, Southern Medical Journal, volume 16, number 1, January, 1923, pp. 57-58].):

To the Southern Medical Association:

At the last General Session of the Southern Medical Association held in Hot Springs, Ark., November 14-17, 1921, a resolution was adopted instructing the President of the Association to appoint a committee to be composed of one physician from each state comprising the Association to investigate the merits of all claimants to the honor of being the discoverer of anesthesia, giving the matter proper and careful attention, and to report to the Association at its next annual meeting.

Pursuant to this resolution the President appointed the following committee:

Dr. Frank K. Boland, Chairman, Atlanta, Ga.
Dr. W. W. Harper, Selma, Ala.
Dr. W. F. Smith, Little Rock, Ark.
Dr. H. H. Hazen, Washington, D. C.
Dr. F. C. Moor, Tallahassee, Fla.
Dr. Louis Frank, Louisville, Ky.
Dr. E. Denegre Martin, New Orleans, La.
Dr. Hugh H. Young, Baltimore, Md.
Dr. W. W. Crawford, Hattiesburg, Miss.
Dr. Vilray P. Blair, St. Louis, Mo.
Dr. F. Webb Griffith, Asheville, N. C.
Dr. Horace Reed, Oklahoma City, Okla.
Dr. Robert Wilson, Jr., Charleston, S. C.
Dr. Samuel S. Briggs, Nashville, Tenn.
Dr. M. L. Graves, Galveston, Tex.
Dr. Stuart McGuire, Richmond, Va.
Dr. George D. Jeffers, Parkersburg, W. Va.

During the past twelve months this Committee has investigated this matter very carefully and thoroughly and has considered all literature available on the subject. The Committee met at the Hotel Patton, Chattanooga, Tenn., November 14, 1922, with the following members being present: Drs. Boland, Moor, Frank, Crawford, Griffith, Reed, Wilson and McGuire.

After considerable discussion of the various claimants and a review of the literature and correspondence relating to the subject, the following resolution was adopted:

"WHEREAS, Unmistakable proof shows that Crawford W. Long used sulphuric ether to produce surgical anesthesia in Jefferson, Georgia, on March 30, 1842; and,

"WHEREAS, Undoubted records show that this was the first time in history that ether was ever used for this purpose; therefore, be it

"Resolved, That the Southern Medical Association, in annual session at Chattanooga, Tennessee, November 13-16, 1922, declares that Crawford W. Long, and none other, was the discoverer of anesthesia, and is entitled to the credit and honor for an achievement of such inestimable benefit to medicine and to humanity."

(Signed):

Frank K. Boland, Chairman for the Committee.

PREVENT TUBERCULOSIS

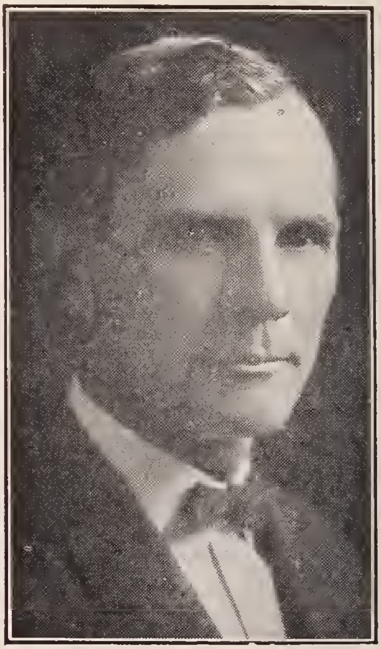
One Negro woman to another:

"Has you all bought your Tuberculosis Seals yet?"

"No, I ain't bought none. What they for?"

"They sell 'em to prevent tuberculosis, and I buy me fifty cents' worth every Christmas and stick 'em on my chest and I ain't never had tuberculosis."

SECRETARY OF STATE ASSOCIATION



Dr. T. M. Dye, the efficient secretary of the Mississippi State Medical Association, who was recently re-elected Mayor of Clarksdale, the New York of Mississippi. We congratulate Dr. Dye and the Delta city also. There is not one bit of harm in a doctor improving his citizenship as he goes along.

THE PROBLEM OF APPENDICITIS

Here is a house where an operation was done in 1897, about the first of April. It was done in the room to the left as you look at the house. The condition was thought to be appendicitis, but the exploration proved to be a gangrenous Meckel's diverticulum. The operation was performed by Dr. G. S. Bryan, of Amory. This operation was probably the first abdominal section done for what was thought to be acute appendicitis in this section, maybe in the entire state. The kitchen table was used for the operating table and the equipment used was carried to the home in a "little black bag" (big ten-ton trucks were not here then, neither were x-rays and big amounts of equipment available to aid diagnosis.) The assistant was a recent graduate who had had no internship, the anesthetist was a druggist who had not seen ether given before. The surgeon did the sterilizing in the home.

Mr. Peyton Fuqua, the patient, is still here after forty-three years, and doing quite well.

Another remarkable case is reported by the same surgeon just a few years later of a gunshot of the abdomen near the umbilicus. The operation was done in a pine pole cabin on a cooking table. Five punctures of the intestine were closed and the abdomen closed without drainage. This man, J. B. Glenn, recovered right along and lived until just a few weeks ago, when he died in Birmingham, and the body was brought back to Amory for interment. This time Dr. I. P. Burdine, now deceased, assisted in the operation and Dr. J. D. Green, now of Brooksville, then an undergraduate, gave the ether.

We are not mentioning these cases to advertise any one. No doubt many other men have had similar experiences in our state and other states for many years. We do not wish to return to the old days. We have made much advancement. Surgery is easier now. Mississippi has a hundred hospitals within its borders which can offer very good service. Yet the death rate for appendicitis is not being reduced according to reports. Dr. Cabot seems to leave the impression that we have but few men practicing medicine who have enough equipment and consultants to make a diagnosis, and that but few hospitals have sufficient equipment to care for patients. This is a serious challenge to the practitioners of this country and to the surgeons also, who have done fine work under difficulties. The cases above indicate that good work has been done even in the cabin. A professional mind, a medical soul and a missionary heart, a brotherly interest, and a study of the individual patient, is still worth more than forty tons of equipment and a score of specialists without these qualities.

To replace the cooking table in the home we now have the small hospital throughout the country. But there is the same attitude on the part of some toward these as exists toward the practitioner, but surely they have a great work to perform. There should be a correlation between the small hospital and the large, a close co-operation between the practitioner and the specialist. The problem of preventive medicine is big enough for every member of the medical profession and so is the problem of appendicitis. Dr. J. W. Barksdale, discussing this subject at the Mississippi Chapter of the College of Surgeons at Jackson recently, stated that South Carolina has the lowest death rate from appendicitis of any state in the Union and Mississippi next. These are rural states and composed largely of rural doctors. In the hospital in which he is connected, the death rate for the last few years is only about .54 of one per cent, the average over the United States being several times this. He thinks that delayed operation is largely the cause even today of the high mortality in appendicitis. This journal has said many times for many years that it is better to have an operation for acute appendicitis in a six-bed hospital within six hours of the onset by a general surgeon than by a Mayo in the largest hospital in the United States three days later. One great need now in the rural communities is for the education of the laity on some facts about appendicitis. This can best be done through the medium of the country weekly.

Every person should know that the person who has acute appendicitis is three and a half times more likely to die if he takes a purgative than the one who takes none. Every pain in the abdomen that lasts for one hour without a let up should be counted appendicitis until it can be proved something else. Early diagnosis and early operation constitute the answer. The history and the hand can make the diagnosis in the average case without any further tons of equipment. Even one trained finger that is kind, tender and sympathetic, moved gently over the abdomen could save many lives with an early diagnosis. And we have sufficient hospital facilities and enough surgeons to take care of the operations. In Hygeia, July, 1935, issue, the following statement was made, "It is much safer to go a short distance to a small hospital than to travel a long distance to reach a large hospital or a surgeon of great renown—the best treatment is early examination, careful diagnosis, and early operation in a hospital in the vicinity." With more alertness on the part of the profession and education of the laity we can reduce the death rate in acute appendicitis. What we can do with the means at hand we should do.

TUBERCULOSIS CLIP SHEET

One of the needs for the control of tuberculosis today is for greater emphasis on the extent of the disease and less on its declining death rate. Rice, John L., M.D., N. Y. City Department of Health.

Institutional care is always necessary at one time or another in treating tuberculosis, because of communicability. There is a considerable class which may be regarded as custodial cases, and there is need for domiciliary institutions where they can be cared for. When returned to the community results are often disastrous to them and their families. Aftercare and vocational rehabilitation are essential in restoring the patient to normal life. Masur, J., Hosp. Management, Oct., 1939.

Patients subject to febrile reactions following refills have little or no reaction following nitrogen or helium refills. The febrile reaction probably represents a flare-up of tuberculous pleuritis following the increased oxygen supply of the refill. Pugsley, H. E., M. D., Amer. Rev. of Tuber., Mar., 1940.

There is no single absolutely reliable sign or symptom of activity in tuberculosis. Its determination must rest upon the most careful and thorough consideration of all the general and local symptoms and signs. Miller, James Alex., N. Y. State Jour. of Med., Dec., 1939.

The sputum-positive cases are a matter of grave concern. They insist upon being discharged to their families and the community; yet segregation is of the first importance in controlling tuberculosis. By segregation did our ancestors rid the country of leprosy. Welsh Nat'l. Mem. Aaan. Report, Tubercle, Nov., 1939.

The American Academy of Pediatrics is sponsoring an educational campaign to create a demand for protective examinations on the part of employers and employees. According to the Academy approximately 2% of the teachers actively engaged in elementary and secondary schools in the United States suffer from tuberculosis. The Survey, Jan., 1940.

The possibility of utilizing the general hospital as an effective medium for case-finding in tuberculosis has not been sufficiently explored. The fact that a person is admitted to a general hospital for a condition other than tuberculosis should never be accepted as a guarantee that such person does not have significant tuberculosis disease. In a study of 4,853 adult admissions to 14 general hospitals in New York State, 1.1% showed clinically significant tuberculosis and 0.6% unsuspected tuberculosis. Plunkett, R. E., M. D. and Mikol, Edward X., Amer. Rev. of Tuber., Mar., 1940.

A disease which cannot be overlooked in a health report is tuberculosis; not only because it is still responsible for a great many unnecessary deaths but also because the tuberculosis death rate is considered a fairly reliable index of a community's economic, social and health status. Bul. Milwaukee Health Dept.

If you want to live a long life, develop a chronic disease and nurse it.—Osler

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NOTICE—MEDICAL EXAMINATION

The Mississippi State Board of Health will hold examinations for license to practice medicine in the new capitol (Jackson, Miss.) on June 26 and 27, 1940.

Examination on first two years, Wednesday, June 26. (Send or bring certificate for verification).

Examination on last two years, Thursday, June 27. (Send or bring medical diploma for verification).

For application blank write to: Dr. R. N. Whitfield, Assistant Secretary, State Board of Health, Jackson, Miss.

The Mississippi State Medical Association, the State Board of Health, Tulane Medical School and the Commonwealth Foundation will continue postgraduate courses in Mississippi for another year at least. This is very fine work. The doctors of the state should appreciate this and take advantage of its benefits. It is indeed profitable to have an able teacher on a special subject come right to our home town and bring us the very latest and best known in his field of practice. We not only have the benefit of the lectures, but we have at our command the teacher as a consultant for any of our difficult cases. This "rural free delivery" in medicine is a great step forward. It is the right step. It is more practical than having to go to the large medical centers for additional work, and it is a great economical saving to the profession. It helps bring the doctors of the towns and the communities together and teaches them to co-operate, at the same time offering a fine opporunity to carry the right type of medical education to the laity. It, in turn, gives the instructor in the medical school the privilege of discovering personally just what is needed for effective practice out in the small town and rural community, and what is to be done on the limited means governing the efficiency of this practice. This information will consequently be reflected in our medical schools, the end-results of which will be more efficient medical service to the people.

Dr. B. J. Farr, of Glen Allan, Miss., Washington County, died May 1. He had practiced in that county for twenty-one years. Dr. Farr, who was sixty-eight years of age, was a native Mississippian, born near Lexington and spent his early life in his native county, attending Emory School and later graduating at Mississippi State.

After receiving his medical degree from Louisville Medical College in Kentucky, he began the practice of medicine at Holcomb. Later he lived at Pettit and for the past 19 years made his home at Glen Allan.

During the World War he was in the medical division of the Aviation Corps and was stationed in the state of Washington.

He leaves his wife; a brother, B. C. Farr, Cincinnati, and a sister, Mrs. J. T. Downer, Lexington.

Dr. J. C. Luper, of Okolona, was named president-elect of the Mississippi Dental Association at the closing session in Jackson, April 17.

Dr. Luper will succeed Dr. Fayette C. Williams Jr., Corinth, who was installed as president for the incoming year.

Dr. Ford Leggett, of Laurel, was named delegate to the American Dental Association, with Dr. A. H. Henderson, of Greenville, as alternate.

Biloxi was selected for the 1941 convention.

Dr. George Evans, of Jackson, was reelected secretary.

The West Tennessee Medical and Surgical Association met in Jackson, May 24. The following are officers: Dr. J. P. Baird, Dyersburg, president; Drs. L. E. Trevathan, Bruceton, and J. D. Carlton, Union City, vice-presidents; Dr. George McSwain, Paris, secretary and Dr. John Jackson, Dyer, assistant secretary. Papers were presented by Dr. H. P. Clemmer of Milan, Dr. Glenn D. Batten of Jackson, Dr. Jefferson C. Pennington of Nashville, Dr. Spencer Johnson of Memphis, Dr. Conley Sanford of Memphis, Dr. W. A. Ruch of Memphis, Dr. W. L. Williamson of Memphis, Dr. J. P. Baird of Dyersburg, and Dr. George W. Crile of Cleveland, Ohio.

BOOK REVIEW

DISEASES OF THE NOSE, THROAT AND EAR. By W. Wallace Morrison, M. D. Clinical Professor and Chief of Clinic, Department of Otalaryngology, New York Polyclinic Medical School and Hospital. Price $5.50. Philadelphia: W. B. Saunders Co. 1940.

Dr. Morrison is one of the great teachers of the country, has been constantly engaged in the teaching of otolaryngology to postgraduate students for the past 15 years. The author states that his book is written entirely for the undergraduate medical student and the general practioner. The book contains 675 pages and is more condensed and smaller than many of the books on this subject. The author states that the book is intended to be more practical than theoretical. Certainly this is found to be true after one reads the book. The first edition of this book came out in 1938. The new edition of 1940 is up to the minute, new, modern and streamlined in every respect.

BOOK REVIEWS

CHEMOTHERAPY AND SERUM THERAPY OF PNEUMONIA, by Drs. Frederick T. Lloyd, Elliott S. Robinson, and Roderick Heffron, published by the Commonwealth Fund, is a little book that sells for only one dollar and should certainly be on the desk of every practitioner of medicine. This book is the third in a series of handbooks on pneumonia published by the Commonwealth Fund. The first was published in 1936, titled LOBAR PNEUMONIA AND SERUM THERAPY, the second in 1938, PNEUMONIA AND SERUM THERAPY. The present book discusses chemotherapy and further data on the uses of horse and rabbit anti-serum and also the combined use of anti-serum and sulfapyridine. Pneumonia is first discussed as a community problem, then a definition is given and the etiology is discussed along with definite suggestions for diagnosis. Liberal space is given to the types of pneumonia and the prognosis in each. Chemotherapy is discussed with its merits and results, sulfanilamide being the main drug used. The administration of serum and its dosage is outlined. Finally, the merits of serum and chemotherapy are evaluated separately, as well as the combined treatment. You will want to send one dollar to the Commonwealth Fund, New York, for this book.

CANCER IN CHILDHOOD, edited by Harold W. Dargeon, M.D., F.A.A.P., Instructor in Pediatrics, College of Physicians and Surgeons, Columbia University, 112 pages, indexed, published by C. V. Mosby and Co., St. Louis. Illustrated. Price, $3.00.

Nine papers by members of the various departments of the Memorial Hospital for Cancer and Allied Diseases in New York, represents the efforts and experience of this group whose practice includes the care of the young. The editor hopes to emphasize childhood cancer as one of the important children's diseases. He avers that it is as important a cause of death as some of the more usual diseases of childhood, exceeding in death toll typhoid fever, poliomyelitis, tetanus, acute rheumatic fever or diabetes mellitus. Since it is not a reportable disease, the degree of prevalence is not known. The mortality is extremely high. The most commonly found physical signs are mentioned to aid in diagnosing its extraordinarily varied manifestations. Malignant bone tumors, lymphomas, leucemias and allied diseases are similar to the same diseases in adults.

Cancer of the genitourinary tract, of the head and neck, of the soft somatic tissues, of the blood and lumph is discussed with case reports.

FEVER THERAPY AT GARTLY-RAMSAY

Fever therapy has been used for a number of years. It, no doubt, is important to keep it on a thoroughly scientific basis. We understand the Gartly-Ramsay Hospital at Memphis has installed an up-to-date fever therapy department, one of the very best, and has secured a carefully trained man to operate it. We commend this splendid hospital for this added service for the Mid-South territory.

DAIRY MONTH

June is Dairy Month. Every doctor should be interested in the dairy business from the standpoint of economy and in the interest of better health for his clientele. Milk is rich in vitamin A and carries well vitamin D. Even though Mississippi is one of the leading dairy states, her people are badly behind on the consumption of the required amount of milk. For proper growth, for development of teeth and bones and as a perfect source of energy, it is the cheapest food available and its consumption should be stressed as a disease preventive.

ARKANSAS MEDICAL ELECTS

The Arkansas Medical Society, at its annual meeting on April 17, installed Dr. H. T. Smith, of McGhee, as president, and elected Dr. M. Fay H. Jones, of Little Rock, for 1941. Dr. Smith succeeded Dr. A. S. Buchanan. Dr. Smith is worthy and well qualified for this high honor. Dr. Fay Jones will be remembered as the able and pleasing president of the Mid-South whose term expired in February. Other officers elected at the annual meeting in Arkansas were: Dr. I. F. Jones, Fort Smith, first vice-president; Dr. H. V. Kirby, Harrison, second vice-president; Dr. C. W. Vixon, Gould, third vice-president; Dr. R. J. Calcote, Little Rock, treasurer, and Dr. W. R. Brooksher, Fort Smith, secretary.

Five councilors selected were Dr. L. T. Evans, Batesville; Dr. S. W. Douglas, Eudora; Dr. H. E. Murray, Texarkana; Dr. F. A. Corn, Lonoke, and Dr. Clyde McNeil, Rogers.

Mississippi State Medical Association

Organized in 1867

Next Meeting: May, 1940, Jackson

OFFICERS

President—W. H. Anderson, Booneville
President-Elect—Augustus Street, Vicksburg
Vice-Presidents—E. C. Mullins, Meadville
M. L. Flint, Meridian
W. H. Currie, Eupora

Secretary—T. M. Dye, Clarksdale
Editor—Lawrence W. Long, Jackson
Historian—Leon S. Lippincott, Vicksburg
Speaker—J. Rice Williams, Houston
Treasurer—E. Leroy Wilkins, Clarksdale

COUNCIL

First District—J. W. Lucas, Moorhead
Second District—L. L. Minor, Rt. 4, Memphis, Tenn.
Third District—R. B. Caldwell, Baldwyn
Fourth District—J. K. Avent, Grenada
Fifth District—Lawrence W. Long, Jackson
Sixth District—H. Lowrey Rush, Meridian
Seventh District—J. P. Culpepper, Hattiesburg
Eighth District—W. H. Frizell, Brookhaven
Ninth District—D. J. Williams, Gulfport

COMMITTEES

(Committees to be completed for July issue)

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
Central Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	T. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EYE

TREATMENT OF OCULAR SYPHILIS, O. L. Levin and H. T.Behrman, Archives of Ophthalmology, Vol. 23, p. 693, April, 1940.—

Ocular conditions caused or complicated by syphilis is very common. Any ocular structure may be attacked by the spirochete pallidum from the lids to the occipital cortex and often more than one structure is involved. Iritis is a most common manifestation in early syphilis, whereas, optic nerve involvement is very common in late stages. The authors stress adequate syphilis treatment and prefer arsphenamine or one of its fraternity, along with mercury or bismuth compounds given uninterruptedly over a period of years. They also stress use of iodides in all the stages of the disease. Their results in interstitial keratitis have been improved with treatment by hyperpyrexia along with chemotherapy. They believe that one of most common errors made is to give rest periods during treatment and that the therapy should be continued if the patient can stand it until blood and spinal fluid are negative for at least a year. "Most of the recurrences are due to insufficient treatment, and a flare up of an old ocular condition due to syphilis calls for strenuous and continued treatment. The Swift-Ellis method of intra-spinal therapy should be tried in cases of resistant ocular syphilis associated with neurosyphilis. Such treatment will often reverse the spinal fluid reaction to normal and occasionally improve the clinical picture, although reversals of the state of the blood spinal fluid do not always indicate satisfactory clinical improvement."

COMMENT

I was pleased to note that they advised the use of tryparsamide in neurosyphilis. I think this drug to be one of the best in late syphilis but should be used only when an ophthalmologist is available to check vision, fields and fundi after each of the first four injections. This drug should not be used if optic atrophy has already set in, unless the patient is blind. Any diminution of vision, contraction of visual fields or increasing paleness of optic nerve is a sign to stop using tryparsamide. In patients with normal vision, fields and optic nerves there is little danger in using this drug if it is stopped at first sign of decreased vision, contraction of visual fields or paleness of optic nerves.

PATHOLOGY

THE REGISTRY FOR CLINICAL LABORATORY TECHNICIANS, Journal A. M. A., Volume 114, Number 13, March 30, 1940.—

In 1928 the American Society of Clinical Pathologists established a Registry to pass on the qualifications of laboratory technicians and to approve schools for training these workers. Soon this Registry received the recognition of the American Medical Association, the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association and other scientific and medical organizations. The Council on Medical Education and Hospitals was authorized to formulate standards and approve schools which meet its requirements. After a thorough test, conducted by clinical pathologists, successful applicants for a certificate were designated as Medical Technologists (M.T.), a title which connoted a holder of a certificate of competence from the Registry, nationally recognized in the medical and hospital spheres. Within the past six months one C. A. Bartholomew of Red Bank, N. J., who has never himself been registered, began to circularize the medical laboratory technicians of New England, asking them for a fee of $5 to join the "American Medical Technologists" and offering to bestow the title M. T. by virtue of a charter from the State of New Jersey. As far as we know, this movement is not supported or authorized by any scientific body. The promoters seem, moreover, to have undertaken the task of passing on the competence of training schools for medical technologists. In this they seem to be abetted by the proprietors of some commercial schools which have not themselves been approved by the Council on Medical Education and Hospitals and the Registry. This would seem to be the old technic of having one soiled hand wash the other. Graduates from these unapproved schools who are ineligible for the Registry's examination seem to be welcomed into the "American Medical Technologists." Indeed, a teacher of one of these schools has, it is reported, solicited its graduates to join this organization at reduced rates. Complaints have come to both the Council and the Registry against the efforts of this unauthorized and irresponsible body to undermine the scientific and ethical standards that have been set up for the practice of this important vocation by the American Medical Association and the American Society of Clinical Pathologists. Certainly physicians everywhere will do their utmost to inform young men and women who contemplate a career in medical technology of the hazard that lies in participation in such courses or organizations.

PEDIATRICS

THE PROGNOSIS OF INFANTILE TUBERCULOSIS, Clement A. Smith, and Winifred DeLacey, New England Journal of Medicine, 222:213 (February 8) 1940.—

In a recent study of 345 deaths from tuberculosis in the infants' and children's hospitals, it is shown and emphasized that the age incident is the principal factor which influences the prognosis in infantile tuberculosis. As has been shown by many others, the highest mortality occurred in children under two years and the lowest death rate in those over two years. It was found that children under two years usually died with miliary tuberculosis and the majority in the older age group died from tuberculosis meningitis, not associated with miliary tuberculosis.

This study emphasized the importance of the earliest years of life as the most valuable period for pediatric effort against tuberculosis. The authors stress the means and importance of early diagnosis. From the writers' studies and from the literature "it seems fairly certain that tuberculosis processes in infancy run a comparatively acute course." If the infected infant survives one year, or perhaps two years, after the discovery of his disease, his prognosis becomes reasonably favorable. Perhaps less, but certainly frequent, observation of such patients should be maintained over long periods of time. It has been proved beyond question that infection beginning in the very early months of infancy terminates in higher fatalities than that which occurs near the age of two years and over. Close observation and the care of the tuberculin positive infant are emphasized.

Early diagnosis is given more credit for improvement in the prognosis rather than better therapy. Therefore, the authors insist that the method of successful attack against tuberculosis as a pediatric problem is clearly indicated. It is emphasized that we should seek out the infant siblings of tuberculin positive older children instead of concentrating so much time and attention on those in safer age groups. Newborn infants of tuberculous parents should be regularly tested for infection during the most dangerous years. To await the development of symptoms in infants before looking for tuberculosis is a much graver error than it is in adult patients. The means of diagnosis are: history of contact, tuberculin test, and the roentgenogram.

—H. F. G.

PUBLIC HEALTH

CHANCRES STUDIED FROM THE PUBLIC HEALTH POINT OF VIEW, Charles Walter Clarke, Annals of Internal Med., 13:928-939, December, 1939.—

In the intensive program inaugurated for combatting syphilis, nothing is more important than finding the cases early and bringing them under treatment which will make them noninfectious. Both the best interest of the patient and the public will be served if the patient receives treatment in the chancre stage. How to assure that patients will suspect syphilis, or at least some serious condition, when a chancre exists, is one of our great problems, especially when it is recognized that many primary lesions are inconspicuous, mild, or atypical manifestations of syphilis, that they may appear anywhere on the body surface except the teeth and the nails, and disappear without treatment. When even the physician sometimes fails to suspect a lesion of being actually a chancre, "how can we teach lay people to take 'cold sores,' 'pimples,' 'canker sores,' 'fever blisters,' etc., to a doctor for a darkfield examination?", the author asks.

The importance of early diagnosis of syphilis by darkfield examination of chancre fluid is well recognized and should be used not once but repeatedly in a clinical diagnosis of lesions of the skin and mucous membrane, following the course of such lesions with serologic tests. "The common error of ruling out the possibilities of a chancre because the Wassermann or Kahn test is negative should be corrected," the author states.

In a study of 15,090 syphilis case records in the New York City Department of Health syphilis clinics, 971 cases were revealed as having been diagnosed in the chancre stage by the darkfield method, or 6.4 per cent. An additional 48.9 per cent gave a definite history of a primary lesion. Of the 6.4 per cent definitely diagnosed, only about 3 per cent were seen in the first 10 days after the appearance of the chancre; in 59 per cent more than 30 days elapsed before treatment was begun, and in 7 per cent 100 days elapsed. The incidence of infection was found greatest in the age period 21 to 30, with the exception of colored females where the peak was between 16 and 20 years. Marital infection was claimed in 34.5 per cent of female cases as against 1.4 per cent in males. More than three-fourths of all males named prostitutes as sources of infection. Of all the chancres definitely diagnosed 5.7 were extragenital, but because genital chancres are often missed in females, the ratio of extragenital to genital chancres was eight times as high in females as in males. The lips are by far the most common sight of extragenital chancres. Of the 971 cases diagnosed in the primary stage, only 3 per cent sought medical attention within 10 days after first noticing a lesion. Over half waited more than 30 days and 7 per cent delayed for over 100 days, after noticing a "sore" before asking the physician to make a diagnosis.

The need for health education of the public to seek medical advice for lesions of the skin or mucous membranes, genital or otherwise, which fail to heal within one week is stressed, as well as education of the physician as to the importance and value of darkfield examinations. —F. J. U.

State Board of Health

Felix J. Underwood, M.D.

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For application blank write to: Dr. R. N. Whitfield, Assiistant Secretary, Mississippi State Board of Health, Jackson, Miss.

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MEDICAL LICENSURE IN MISSISSIPPI

Prior to the year 1912 almost any individual could take an examination before the State Board of Health for a licensure to practice medicine. The restrictions as to attendance in medical schools had not come in for much attention, nor had the schools of that time given sufficient thought to the matter of horough training in the science of medicine. To keep with medical progress and to prohibit entrance of unqualified individuals into the field of medical practice, Chapter 236, Laws of Mississippi, 1912, amended the Code of 1906 relative to the practice of medicine and provided, among other requirements, "that no applicant shall be granted a license unless said applicant shall hold a diploma from a reputable medical college that requires four years' course of at least 32 weeks for each session." Later on, in 1919, the further requirement was added that "all applicants for license to practice medicine in Mississippi must have graduated from a CLASS A medical school, as classified by the American Medical Association."

The purpose of medical licensure has been, and will continue to be, the protection of the public from incompetent practitioners by establishing standards of education by conducting examinations to test the knowledge and fitness of candidates to practice medicine. The most important qualifications of the individual who desires to enter this field are character, native ability, industry, training and experience.

Medical licensure in this country grew out of the conditions of practice. For a century and a half after the colonization of the country the license to practice was granted by a physician in the form of a certificate of competency. The only participation of the civil authorities was a registration of this certificate in a local court. Medical teaching was largely through apprenticeship and followed the usages of a craft guild. A student apprenticed himself to a physician, usually for a period of seven years, and it was out of this function of teaching that the physician originally came to be known as a doctor—a designation that came into common usage later to indicate a physician[1].

When a pupil had served an apprenticeship to a physician and had obtained his certificate of service and proficiency, he was permitted to practice independently. The judgment as to whether or not the prospective physician was competent rested entirely with the preceptor. As time went on the general level of education among doctors declined. The quality of medical practice deteriorated, for apprenticeship training became largely imitation by the pupil of his preceptor in the art of practice. The plan by which preceptors with little training themselves certified the proficiency of their own pupils led gradually to a further lowering of standards.

Small wonder that agitation for restrictive laws arose in the face of sudden outstanding discoveries in bacteriology, pathology, physiology, and the other sciences upon which clinical medicine had come to depend. The low standards which had existed encouraged homeopathy, Thompsonianism, eclecticism, the botanics, and other cult practices, which sought the same privileges granted to medical practitioners. Proprietary medical schools, many of which were strictly commercial enterprises, came into existence, and it became obvious that some device must be created which would protect the public from the incompetent care which these conditions imposed.

233185

Thus laws were established providing for state examining boards with power to examine and license those qualifying for the practice of medicine. Mississippi has kept pace with other states in this connection and its medical standards and quality of service have made corresponding progress. Since 1926, an average of 48 physicians each year have been licensed to practice in the state. The following figures may be of interest:

Physicians Licensed In Mississippi
1926-1939

	By Examination	By Reciprocity	Total
1926	18	27	45
1927	21	20	41
1928	24	29	53
1929	26	23	49
1930	31	21	52
1931	35	18	53
1932	27	19	46
1933	24	18	42
1934	26	22	48
1935	32	17	49
1936	22	14	36
1937	18	25	43
1938	34	26	60
1939	22	35	57
Totals	360	314	674

It is the practice in Mississippi as in many other states to grant a certificate of reciprocity to a physician moving into the state, provided the requirements of the state in which he is licensed are as high as those of Mississippi. Under no circumstances will reciprocity be granted where requirements are lower.

The statement is made in a recent report[2] by the Council on Medical Education and Hospitals of the American Medical Association, that "various communities in Mississippi are in need of young physicians to assume the active practice gradually being relinquished by those who are now approaching the retirement age." The report also pointed out that the number of physicians in Mississippi has shown an almost continuous decline since 1909; and that while the population has expanded approximately 79 per cent since 1886, the number of physcians in the state has seemed to follow the general trend away from rural areas. This suggests that there is genuine need to make the medical facilities of Mississippi as attractive as they are in other states. The Commonwealth Fund is rendering a splendid service to the state by providing a number of medical scholarships each year and requiring that physicians receiving this support settle in a rural area in Mississippi for at least a 3-year period. The location of well-trained young physicians in isolated sections appears to have a beneficial effect upon the quality of service rendered, not only in the area covered by his practice but in surrounding sections.

Finally, a word in regard to cults and non-medical practitioners which rise from time to time and seek licensure to practice. It has been pointed out[1] that there are many reasons for the continued existence of cults which in one form or another have complicated services since time immemorial. Claims of cures that are made with sufficient confidence and on what seems to be a reasonable basis are always sure to attract followers and public support if advertised. It is not to be expected that the public at large should be able to formulate judgment on the alleged merits of different methods of treatment. There is still much mysticism about medicine which has its origin in superstition and ignorance.

"Many of those who have been unable to secure relief from physicians are quite willing to venture a trial of other means which they hope may restore their health. Medical knowledge is far from complete and patients are not always successful in securing even the soundest medical advice which is available. It is well known also that many diseases are self-limited and recovery will follow in some, regardless of the treatment. Many claims of success are due to this feature of spontaneous recovery of normal bodily functions."

Irregular practitioners have been quick to take advantage of the opportunities for the exploitation of the public which have been created by certain weaknesses in our medical practice. "While the protection of the public from illegal practice is the obligation of the state and not the medical profession, the latter is the largest group of citizens with knowledge of, and interest in, this problem. Its responsibility in this matter is similar to its obligation of supporting proper public health legislation. While both types of legislation are primarily the duty and responsibility of the state, the proper form and enforcement depend upon the support and interest of physicians as well as of the public. Since one of the primary objects of medical education is to provide the public with competent practitioners, it would appear that the state has the right to expect the active interest and moral support of educators in its efforts to eliminate quackery."[1]

REFERENCES:

1. Commission on Medical Education. Final Report (New York, 1932).
2. A. M. A. Council on Med. Education and Hospitals—"Hospitals and Medical Care in Mississippi," J.A.M.A. 112:2317-2332, June 3, 1939.

* * * *

A complete card reference file of information on illegal practitioners attempting to practice in Mississippi is being set up by the State Board of Health. Each card will show such information as the following on each case: name, address, education, healing claims, trials and results of same, etc. These cards will be filed in alphabetical order as permanent records and will help to serve as a guide in determining the progress made in the investigation and prosecution of these cases. The State Board of Health is on the alert for illegal practitioners and has secured convictions of numerous cases. The medical profession can assist by sending in information regarding any individuals whom they know to be practicing medicine without a license.

MEDICAL LIBRARY ASSOCIATION

The forty-second annual meeting of the Medical Library Association will be held at the University of Oregon Medical School, Portland, June 25-27, under the presidency of Col. Harold W. Jones of the Army Medical Library, Washington, D. C. Headquarters will be at the Heathman.

Program and Invitation of the NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY

Second Quarterly Meeting Tuesday, June 11, 1940, Noxubee County, Macon, Miss., 2:00 P.M. promptly, at the Baptist Church. Following the scientific program there will be a barbecue given for the doctors and their wives at 7:00 P.M. by the doctors of Noxubee County. Dr. J. T. Senter is president and Dr. A. J. Stacy, secretary.

PROGRAM

Meeting called to order by the president—Dr. J. T. Senter, Fulton.

Invocation by Rev. R. D. Pearson, Pastor of the Baptist Church.

Welcome Address—Mayor R. N. Henley.

Reading and adoption of minutes of last meeting.

Paper: "What Is Wrong with Medicine and

Whither Are We Going"—Dr. C. E. Boyd, Amory.

Paper: "Practical Points in the Differential Diagnosis and Treatment of Appendicitis"—Dr. O. B. Crocker, Bruce.

Paper: "Treatment of Fractures in Small Hospitals"—Dr. J. C. Culley, Prof. of Surgery, University of Mississippi.

Paper: "The Recent Advances in the Treatment of Fractures About the Hip"—Dr. T. H. Blake, Jackson, Miss.

Ladies' Auxiliary will meet at the same place at 2:00 P.M. for their scientific program.

We offer sympathy to Dr. Paul Googe, of Charleston, and Dr. Turner Googe, of Nebraska, in the loss of their brother, Mr. Will Googe, who has been in the employment of the U. S. Government for a number of years and was one time special Ambassador to Spain. The Googes are natives of Prentiss County, their father having served the county as sheriff.

BOOK REVIEW

CLINICAL ROENTGENOLOGY OF THE ALIMENTARY TRACT, by Jacob Buckstein, M.D., Bellevue Hospital, N. Y. 617 pp., 525 original illustrations. Price, $10.00. W. B. Saunders Company, Philadelphia.

This book was written to help physicians in general practice, as well as the internist and surgeon. Since roentgenography has become essential in diagnosing lesions of the alimentary tract, some knowledge thereof should form a part of the practitioner's and surgeon's armamentarium.

The author has described all that is necessary for a proper roentgenographic study of both the functional and organic changes in the alimelntary tract. He aims to supply the means of diagnosis in actual clinical practice. Etiology and pathology augment the clearness of the changes reproduced in the roentgenogram. Details such as preparation, mixture recommended, position, time intervals between exposures and other important points are brought out in the chapter on Investigation. This book would be a valuable addition to the library of any man in general practice, and will be welcomed by both internist and surgeon.

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FROM OUR PRESIDENT

Cordial greetings and sincere thanks to the members of the Woman's Auxiliary to the Mississippi State Medical Association!

Each one has given untiringly of her time and efforts during the past year to help put over the program that had been outlined by Dr. Wall, past-president of the State Medical Association. Dr. Wall has been the inspiration and devoted friend of the Auxiliary and we are looking to our new president, Dr. Anderson, for guidance throughout the coming year.

With your co-operation we hope to continue

Mrs. E. C. Parker
Gulfport, Miss.

the good work done by our able and gracious past-president, Mrs. Hugh Johnston.

Our broadest field of work, I believe, lies in health education programs and projects. As a counter-attack against the propaganda that is being spread by some recent publications, against the medical profession, we are urged to stress the increased circulation of Hygeia so as to make available to the public correct information regarding the medical profession.

Social and philanthropic activities, historical collections, etc., all have their place in our plan; but it is through the teaching of health that lies our greatest opportunity for real worth while service.

MRS. W. K. STOWERS NEW PRESIDENT-ELECT

Mrs. W. K. Stowers, of Natchez, was chosen to head the Auxiliary to the Mississippi Medical Association at the meeting last month in Jackson. She has been very active in her local organization, and comes to her new office in the state organization from the position as recording secretary on the executive board.

THE NEW PRESIDENT

Petite and thoughtfully gracious, the new president has so many attributes to qualify her for office, every heart bows to her leadership this year. Mrs. Parker's femininity is so definitely compelling, one is not inclined to describe her with such words as "efficient," "capable" or "executive." But she is all of these to an amazing degree. She has already proved through years of effective work in her local as well as the state organization, that she is alert, untiring and co-operative. If the Auxiliary carries through its program as planned this year, much of the credit will be due to this wise and loyal woman who thus will reflect honor on the efforts of doctor's wives simply by following the instincts of her heart.

Of French descent, Mrs. Parker was born in Canada, where she spent her early girlhood. She was educated in New Orleans and later entered training for nursing. She married Dr. E. C. Parker in 1923, and has since then busied herself in Gulfport with club activities, church work and keeping her lovely Coast house and flower garden.

ACTIVITY CALENDAR

Under our state head, Mrs. E. C. Parker, the auxiliaries over the state will this year follow a definite program of activity in direct cooperation with the doctors. The first three months were outlined at the state meeting:

June—Hygeia.

July—Accidents.

August—Doctor's Check-up.

Even though your auxiliary is not meeting during the summer, it need not mean you won't function. The goal this month is a subscription to Hygeia in every doctor's office, every school library and every beauty parlor in your town. At no time does the profession need a public more enlightened in medical science, and Hygeia is published just for this purpose, by

1. Carrying information about health and hygiene.
2. Encouraging healthful living and community hygiene.
3. Discouraging self-medication and adherence to fads, cults and quackery.
4. Helping reduce mortality and morbidity.

Subjects included: foods and diet, disease prevention, motherhood and infant care, child training and child health, mental health, healthful beauty, dental hygiene, sex education, public health and sanitation, safety, eyesight, posture—all presented to teach symptoms and facts about health.

There can be nothing wrong with physician's wives working for a cause as dignified as Hygeia; it should be classified as civic interest or public welfare, since there is no monetary gain on our part; and we should find it a co-operative privilege.

Every auxiliary is requested to send the Press and Publicity Chairman a report on number of HYGEIAS sold in each town by July 1. Could we make our goal by then a 1,000 new subscriptions to HYGEIA in Mississippi? A special physician's price of $1.75 is offered.

1940 MEETING OUTSTANDING

Highlighted by the visit of Mrs. Rollo K. Packard, of Chicago, president of the Auxiliary to the A. M. A., the meeting of the state organization was outstanding in many ways. The attendance exceeded that of previous years, and in no previous year can we recall a more delightful hospitality, accustomed as we are to the Jackson finesse in entertaining. A beautifully planned tea was given by the doctors' wives of Jackson at the Federated Club Building, the decorations and collation of tempting afternoon dainties being exceptionally impressive. The Central Medical Auxiliary, headed by Mrs. H. C. Sheffield, merits an enthusiastic appreciation for this delightful gesture. The annual luncheon at the Edwards Hotel, also marked by culinary excellence, was a delightful concluding feature to the year's program. New officers were presented and Mrs. E. C. Parker was tendered the gavel from the out-going president, Mrs. Hugh Johnston. Plans for the coming year were briefly outlined.

ISSAQUENA-SHARKEY-WARREN AUXILIARY CLOSES ACTIVE YEAR

The annual benefit bridge party given by the Issaquena-Sharkey-Warren Auxiliary in Vicksburg broke all records this year. Given at the Vicksburg Country Club, May 7, more than a hundred tables at $1.00 each were reserved for the event. Proceeds from the party were used for the Preventorium Fund at Sanatorium.

Mrs. Preston Herring was chairman of arrangements for the party, assisted by Mrs. Augustus Street and Mrs. Guy Sanderson.

* * * *

The Issaquena-Sharkey-Warren Counties Medical Auxiliary closed its season with a beautiful luncheon at the home of Miss Mary Richardson on May 21, honoring on this occasion Mrs. Hugh H. Johnston, who for the past year has served as State President of the Medical Auxiliary.

The luncheon table was especially pretty with its centerpiece of pastel colored larkspur and small vases of pink rosebuds at each end.

Hostesses for the luncheon were Mrs. I. C. Knox, Mrs. W. H. Parsons and Mrs. George Street.

Mrs. John Dent, president, presided at the meeting which followed the luncheon. The members enjoyed a brief talk by Mrs. Johnston in which she thanked them for their co-operation during the past year.

As a member of the National Board of the American Medical Auxiliary, Mrs. Johnston will attend the American Medical Convention in New York early in June.

The following members were present at the luncheon: Mrs. W. K. Purks, Mrs. A. Street, Mrs. George Street, Mrs. Donald Hall, Mrs. R. A. Street, Jr., Mrs. I. C. Knox, Mrs. W. H. Parsons, Mrs. W. C. Pool, of Cary, Mrs. Leon Lippincott, Mrs. F. M. Smith, Mrs. S. W. Johnston, Mrs. Hugh Johnston, Mrs. John Dent, Mrs. Preston Herring, Mrs. Jack Birchett and mother, Mrs. T. A. Carter, of Missouri, Mrs. Edley Jones and Miss Zita O'Leary.

MRS. SEALE HARRIS

The sudden death of Mrs. Seale Harris, Sr., of Birmingham, Ala., which occurred May 10, is widely lamented throughout Mississippi, where she was well known and greatly beloved. As the organizer of the Woman's Auxiliary to the Southern Medicel Association, her place in the hearts of doctors' wives over the South is unique. A model of cultured Southern iliary to the Southern Medical Association, her indefatigable husband, she conquered and kept the affections of those who knew her, simply because under all circumstances, whether important or trivial, she did the one thing that ought to be done, and did it the way most natural and and simple. She had the equipoise of a well-balanced mind and the luminous insight of a calm judgment, combined with purity of soul, generosity of disposition, elevation of purpose—the most solid qualities for greatness.

When Stella Rainer, a daughter of Captain Joel Herron Rainer, a Confederate veteran and a banker of Union Springs, Ala., became the wife of Dr. Seale Harris in 1897, she began a career of such significance that our eulogy might well be a tribute to one whose life ennobled the profession, who exalted the physician's wife, and whose profile will stand more marked against our Southern horizon—our Auxiliary Mother.

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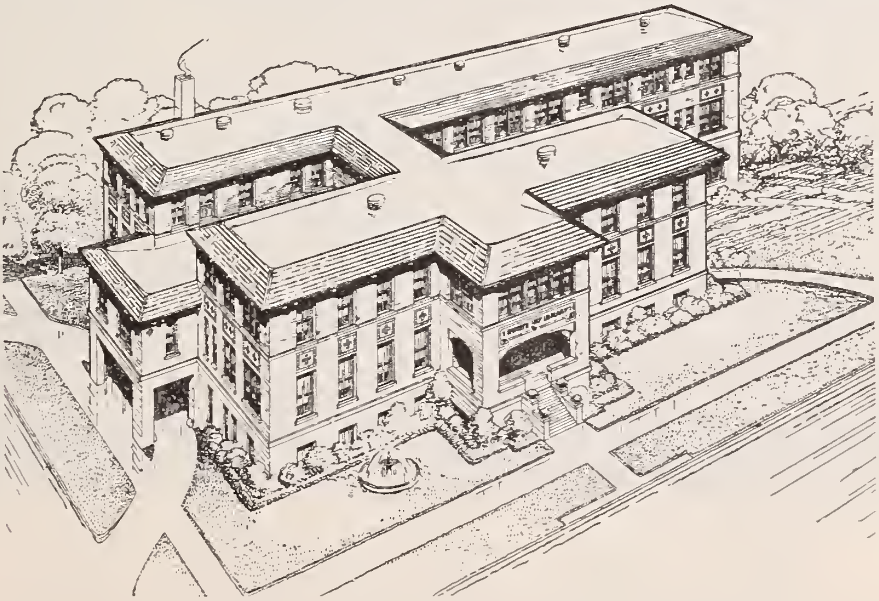

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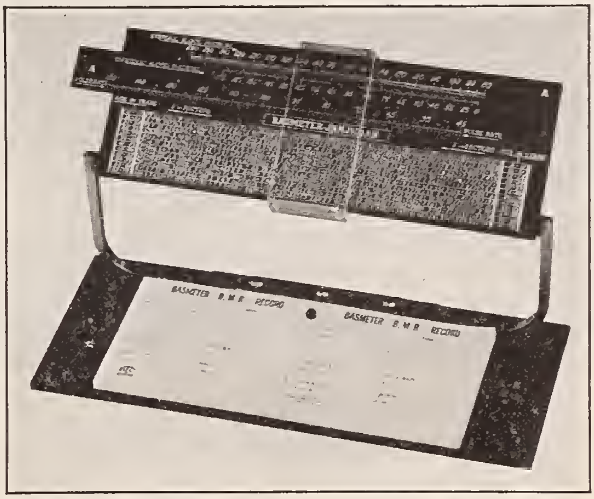

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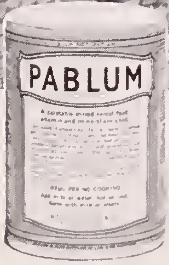

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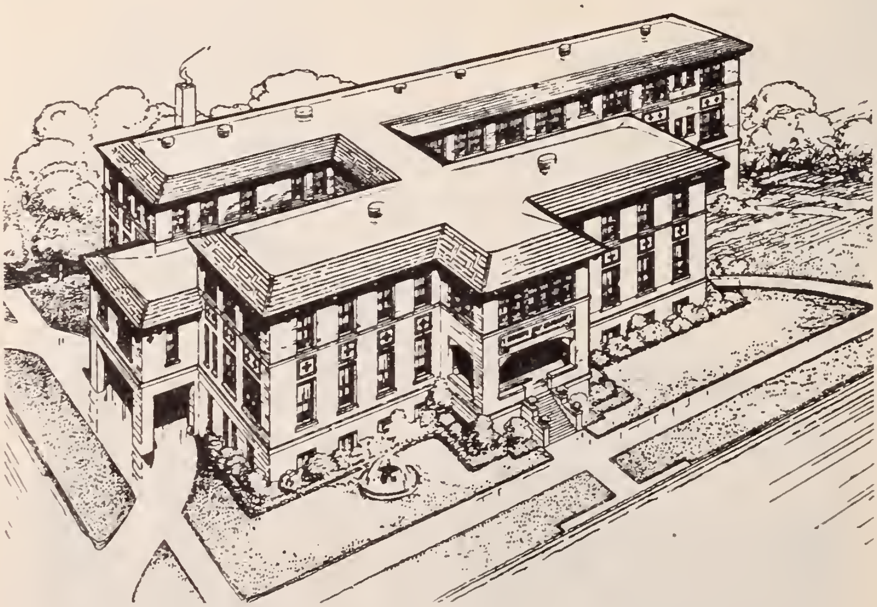

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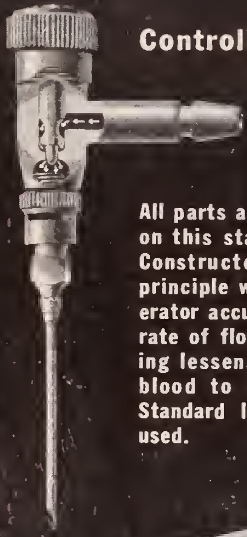

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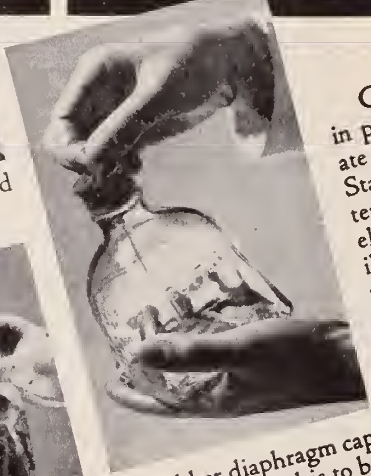

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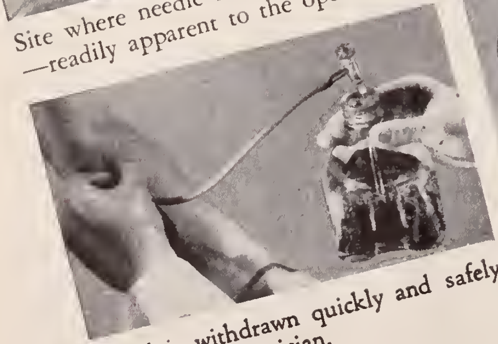

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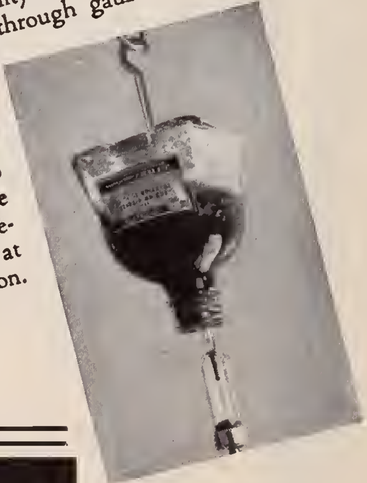

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Lesions of the Stomach and Duodenum and Their Treatment*

WALTMAN WALTERS, M.D., Sc.D.,
Division of Surgery, The Mayo Clinic
ROCHESTER, MINNESOTA

IN DISCUSSING lesions of the stomach and duodenum, these organs are too frequently referred to as though they were similar structures[17]. Such an inference, however, is not correct. These organs differ widely from one another, not only in regard to the reactions of their respective secretions, but also in regard to the types of abnormal lesions which may develop in them. For example, the malignant lesions, carcinoma and sarcoma, involve the stomach but almost never involve the first portion of the duodenum. When a carcinomatous lesion develops in the duodenum it is usually either at the papilla of Vater, and hence really in the common duct rather than in the duodenum, or is an extension of carcinoma or sarcoma from the head of the pancreas into the walls of the duodenum. When malignant lesions occur in the stomach they may extend to the pylorus, but, almost without exception, they abruptly terminate at the duodenal wall. The similarity of the symptom complex associated with benign gastric ulcer and with benign duodenal ulcer has led to the thought that they are lesions of similar type. They differ not only from the standpoint of the tissue in which the ulceration occurs, but also from that of the variable pathologic nature of the lesions themselves and their response both to medical and surgical treatment. The primary ulcer which occurs in the first portion of the duodenum has never proved to become malignant, whereas that which occurs in the stomach has a 10 per cent chance of becoming malignant, according to Stewart, and a 20 per cent chance, according to Katsch.

BENIGN LESIONS OF THE STOMACH

ULCER: When a patient presents a history suggestive of benign ulceration, it is of first importance that a roentgenologic examination be made by a competent roentgenologist to determine the exact site of the lesion. A gastric ulcer always should be regarded with the suspicion that it is an ulcerating carcinoma. This is particularly true of prepyloric lesions as well as of lesions on the greater curvature. At The Mayo Clinic, in dealing with gastric ulcers we proceed on the assumption that chronic ulcerating gastric lesions are malignant until they are proved to be benign. This has helped us in the early recognition and satisfactory removal of many small carcinomatous lesions of the stomach which, because of their temporary beneficial response to a medical regimen, otherwise might have been allowed to go undisturbed, under the erroneous impression that the lesions were benign.

The treatment of gastric ulcer is dependent on several factors, among which are: (1) duration and type of symptoms; (2) healing of the lesion, or its failure to heal under a medical regimen carried out in scientific fashion; (3) presence or absence of a crater, especially with respect to bleeding, and (4) presence or absence of pyloric obstruction.

When the symptoms have been of short duration and the ulcer is small, every attempt should be made to induce healing by nonsurgical means. Such methods of treatment have been commented on in detail by Eusterman[3, 4], Jordan[6, 7] and others. A favorable clinical response to such medical treatment consists of relief of pain, disappearance of blood from the stool and disappearance of the niche seen on roentgenologic examination. In most instances, these criteria can be assumed to be of immediate value in determining the ability of the lesion to respond to medical measures; however, a number of years ago the late Charles McVicar called attention to the fact that such a response is not confined to benign gastric ulcers but that it may occur as well in the course of treatment of small, ulcerating, malignant lesions of the stomach.

---

*Read before the fifty-fifth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 13-16, 1940.

Exact information should be obtained from the patient as to whether a medical regimen has been instituted previously, and evaluation should be made of the accuracy with which it was carried out and the results which followed its use. For if one or more attempts have been made to cause the lesion to heal by a carefully controlled medical regimen, but with recurrence of the ulcerating lesion, the lesion should be removed surgically.

In the period during which our patients who have gastric ulcer are being kept under observation and medical treatment is being employed, even if the lesion appears to be healing satisfactorily, the patient is advised to undergo re-examination at intervals of three months for the first year, regardless of the presence or absence of symptoms, in order to determine that the ulcer has remained healed. If the ulcer recurs or if it fails to heal, surgical exploration is thought advisable. In a few cases, unfortunately, wherein response to the initial medical regimen seemingly was satisfactory, the patient failed to be impressed with the importance of repeated examinations either at the clinic or elsewhere, and returned later only to find that he had carcinoma of the stomach.

Perforating Gastric Ulceration with Crater: The perforating gastric ulcer, with a crater more than 1.5 cm. in diameter, is not likely to respond to a medical regimen. These ulcers, for the most part situated on the lesser curvature, will be found to have penetrated into the gastrocolic omentum, whereas some situated on the posterior wall, in most cases near the lesser curvature, may penetrate into the capsule of the pancreas. It might be inferred that this type of lesion is one in which malignant cells are most likely to be present. Although this may be the case, especially if the lesions have large craters, not infrequently the smaller ulcerating gastric lesions may be in a mass of highly malignant ulcerating carcinoma which already has involved the lymph nodes before the patient presents himself for examination or treatment.

Gastric Ulcers Producing Pyloric Obstruction: Ulcerating lesions of the stomach, either benign or malignant, if they occur on the lesser curvature, not infrequently produce so much disturbance of motility, as disclosed by both clinical and roentgenologic examinations, that only the presence of pyloric obstruction can be determined, and in some of these cases the lesion is suspected of being a duodenal ulcer. Particularly is this true if the patient has had an ulcer-like type of dyspepsia for a prolonged period. Fortunately, in cases of pyloric obstruction, surgical procedures are usually advised, the presence of a gastric lesion is recognized at operation and its appropriate treatment is carried out. The roentgenologist's diagnosis that an ulcerating lesion of the stomach is malignant is almost certain to be correct, particularly if the meniscus sign of Carman is seen in the course of roentgenoscopic examination. But the fact that an ulcer of the stomach is reported as being probably benign by the roentgenologist does not exclude the possibility that the lesion is carcinomatous. On many occasions at operation, with small gastric ulcerations readily visible and palpable, the fact that the lesion is carcinomatous is not recognizable until microscopic examination has proved the fact.

Other Benign Lesions of the Stomach: The other benign lesions of the stomach are fibromas, fibromyomas, leiomyomas, neurofibromas and polypoid adenomyomas. Although these benign tumors occur relatively infrequently, an incidence of 1.5 per cent of the cases of gastric lesions, they are lesions of considerable importance and should be removed surgically. The outstanding symptom which they produce is bleeding, which is usually of the weeping type and may escape the notice of the patient until the pallor of the skin or examination of the blood reveals the presence of a severe degree of anemia. Seldom is the blood vomited, but occasionally the presence of tarry stools has been noted by the patient. The diagnosis of these lesions is made on roentgenoscopic or gastroscopic examination and the skilled roentgenologist is able to demonstrate lesions of this type when they are thumbnail in size and not more than 1 cm. in diameter. Almost constantly, adenomatous polyps of the stomach are associated with a relative achlorhydria, thus leading one to suspect that they are malignant. Many of them are malignant, for in their early stages malignant cells may be found in the perforated polyp.

The leiomyomas frequently degenerate, and Sworn and Cooper have reported that metastasis may occur. It is extremely important that early recognition of these tumors be made, not only to prevent the progressive anemia which is likely to occur, but also because some of them are malignant and many of them are likely to degenerate and become malignant. Before this happens, usually excision of the portion of the gastric wall containing the lesion is all that is necessary, but if malignant cells are demonstrated in the stalk of the polyp, or in the polyp itself, and if sessile in type, gastric resection should be performed. Polyps of the duodenum are exceedingly rare. They do occur, however, and may be the cause of bleeding. They may escape detection on palpation of the first portion of the duodenum, owing to the fact that the polyp has such a long pedicle that it extends into the second portion of the duodenum.

Other benign surgical lesions of the stomach are those of tuberculosis and, in some cases, gastric syphilis. Tuberculosis is exceedingly rare and the diagnosis has been made in only seven cases at The Mayo Clinic[1]. The diagnosis usually is not made preoperatively. Because gastric tuberculosis deforms the stomach in a manner similar to that of carcinoma, on roentgenographic examination the lesion is likely to be reported as malignant. Usually, in such cases, tuberculosis can be found elsewhere in the patient's body. Treatment for these lesions consists in the performance of partial gastrectomy. At operation, if there are tuberculous nodes in the gastrocolic or gastrohepatic omentum, they can be removed with that portion of the stomach which contains the tuberculosis.

Syphilis of the stomach may produce digestive symptoms that simulate malignant disease. The differential diagnosis usually is made by the roentgenologist, who is unable to palpate a tumor in spite of the fact that a large part of the stomach apparently is involved by the pathologic process. Such being the case, the absence of cachexia and presence of a normal content of cellular elements in the blood, together with serologic evidence of syphilis, will usually lead to a diagnosis of gastric syphilis. In some of these cases, a response to antisyphilitic treatment will occur and healing of the multiple ulcerations of the stomach occurs without obstruction. In other cases, particularly when the ulcerations are confined to the lower third of the stomach, the healing process may result in fibrosis and obstruction, necessitating either excision of the involved portion of the stomach or the performance of gastro-enterostomy. I have used these methods of treatment for gastric syphilis, when indicated, with satisfactory results in each group.

MALIGNANT LESIONS OF THE STOMACH

The most frequent malignant tumor of the stomach is carcinoma. The general proportion of carcinoma of the stomach to sarcoma of the stomach is about 100 to 1; however, in the 124 partial gastrectomies performed at the clinic in 1938[20] for malignant neoplasms, five were for sarcoma. The differential diagnosis usually cannot be made between these two lesions until the time of operation and frequently not until the pathologist examines the lesion microscopically.

One of the characteristics of carcinoma of the stomach is that microscopic examination shows an extension of the growth to submucosal regions adjacent to the lesion. Such regions of extension may not be apparent on gross examination. This, combined with the fact that in performing partial gastrectomy such avenues of extension are removed widely and, in addition, the lymph-bearing avenues in the omentum along the lesser and greater curvatures of the stomach can be removed, would indicate that partial gastrectomy is the operation of choice rather than segmental resection of the portion of the stomach that contains the carcinoma. Extension of gastric carcinoma to the lymph nodes or by metastasis to the liver is erratic, for small gastric lesions may be of a high grade of malignancy and may produce glandular involvement or hepatic metastasis, and huge lesions may be of a low grade of malignancy and may produce no glandular involvement. Therefore, removal of the very large gastric carcinomas should always be attempted if sufficient uninvolved gastric tissue remains proximal to it for anastomosis with the intestine.

The treatment of carcinoma of the stomach as well as sarcoma of the stomach is essentially surgical and offers the greatest possibility not only of relief of the troublesome symptoms of obstruction, ulceration, hemorrhage and so forth, but also, when the lesion is confined to the stomach or even when the adjacent lymph nodes are involved, removal of a large portion of the stomach and its adjacent lymph-bearing omentum will give an incidence of five-year cures varying between 40 and 50 per cent if the lymph nodes are not involved, and 18 to 20 per cent if they are involved.

At The Mayo Clinic since 1924, the incidence of patients with carcinoma of the stomach who have been operated on has increased progressively from 48 to 63 per cent and during this time, in spite of the increase in the percentage of patients operated on, the percentage of patients on whom partial resections of the stomach have been performed has increased proportionately. Thus, during the past two years (1937 and 1938) the percentage of partial gastrectomies was higher than at any time in the fifteen-year period (1924 through 1938). In 1938, resection was performed in 50.1 per cent of such patients. Furthermore, it is a significant fact that even in such cases in which many very extensive partial gastrectomies have been required for the removal of the malignant lesions, the total mortality for resections of the stomach in malignant disease at the clinic in 1938 was 13.4 per cent.

When the lesion is confined to the stomach, the surgeon must be willing to perform subtotal and, in a few cases, even total gastrectomy. The risk of subtotal gastrectomy is very little more than that of partial gastrectomy and for lesions of a comparable degree of malignancy, the surgical results are comparable, for very large malignant lesions are frequently found to be of a low grade of malignancy.

On several occasions on which a malignant lesion in the middle portion of the stomach seemed to be fixed, this fixation was found to be due to involvement of a portion of the transverse mesocolon and not infrequently the involved portion was the avascular region between the arcades of the transverse colic vessels. When such is the case, it is usually possible for this portion of the transverse mesocolon to be removed with the lesion.

The great field for advancement lies in recognizing malignant gastric lesions in their early stages when they are small. This refers particularly to general acceptance of the hypothesis that 17 per cent of carcinomas of the stomach originate in chronic gastric ulcers (Stewart). Every ulcerating lesion of the stomach should be considered potentially malignant until it is proved otherwise, and even when the lesion is small, if it does not respond promptly to a single course of medical therapy, it should be removed. The same applies to the smaller polyps of the stomach, which in their early stages may be benign but which may later become malignant. It is a great triumph for the roentgenologist that he is able to demonstrate lesions of the stomach as small as 1 cm. in diameter in practically all cases, with an error of not more than 5 per cent; even the small error should be lessened by gastroscopic examination.

In following out these ideas with 409 patients observed at The Mayo Clinic, in 1938, with malignant lesions of the stomach, operation was carried out on 251 (61.4 per cent) and in 50.1 per cent of the patients operated on, partial gastrectomy was performed. In other words, resection of the stomach was accomplished in 30.8 per cent of all cases of malignant neoplasms of the stomach observed. The mortality in these 124 partial gastrectomies was 13.4 per cent. In sixty-two cases of gastric ulcer which failed to respond to medical treatment or which were of such a large size or of such a character that a medical regimen was not thought advisable, forty-three partial gastrectomies were performed with a mortality of 2.3 per cent.

These results, it seems to me, refute the argument of a few that the risk of operation for gastric ulceration is greater than the chance that the lesion is malignant or may become so.

BENIGN ULCERS OF THE STOMACH AND DUODENUM

Duodenal Ulcer: A primary duodenal ulcer, as has been said, never becomes malignant. Indications for operation in such cases are determined largely on the basis of whether or not complications such as perforation, obstruction and hemorrhage are present. Everyone is agreed that immediate surgical procedures are necessary when intra-abdominal perforation of a duodenal or gastric ulcer occurs. When a duodenal ulcer has produced sufficient obstruction so that the patient's stomach is dilated with persisting gastric retention, the necessity for correcting this mechanical disturbance is well recognized. Repeated hemorrhages from a duodenal ulcer usually frighten the patient or the physician so that the patient is taken hastily to the surgeon or to the hospital. The statement that surgical treatment of lesions that would fall into these groups is advisable will find but few critics. On the other hand, the surgeon is very glad to refer to the medical man for treatment of patients who have duodenal ulcer whose symptoms are mild and who have no complications. Particularly true is this if the patient is young and if the symptoms have been of but short duration. There are patients, however, who have a long history of chronic duodenal ulcer, who have obtained over many years periodic relief of their symptoms by adherence to a modified type of Sippy diet and who have become so tired of it that they are willing to go to almost any end to be relieved of their symptoms. In such cases, I do not hesitate to advise a surgical procedure.

Types of Operation for Gastric and Duodenal Ulcer: My interest in the problem of whether or not gastric resection should be done for duodenal ulcer dates from that time in the early 1920's when Finsterer, visiting various surgical clinics in the United States, strongly advocated gastric resection as a routine method of treating duodenal ulcer in order to eliminate gastrojejunal ulceration. A similar viewpoint had been previously taken by Lorenze and Schur, two other Viennese surgeons. Although it had been the custom at the clinic, as early as 1905[12], to perform partial gastrectomy in the treatment of large, calloused gastric ulcers because of the possibility of the lesion being malignant, the more conservative procedures of gastro-enterostomy or excision of the duodenal ulcer, with plastic operations involving the lower portion of the stomach and the duodenum, had been the surgical procedures of choice for patients who had duodenal ulcer and who had failed to obtain relief of symptoms on a medical regimen.

Those who advocate partial gastrectomy for duodenal ulcer do so on the basis of the presence of associated gastritis and the low incidence of recurring ulceration subsequently; however, the risk of partial gastrectomy for duodenal ulcer in the hands of those of considerable experience will vary from 3 to 9 per cent. To my way of thinking the only thing that partial gastrectomy does better than gastroenterostomy is to produce a greater reduction in gastric acidity in a greater number of cases. It is a matter of record that but 70 per cent of the patients obtain a relative achlorhydria; therefore there is no reason why the 30 per cent who fail to do so may not be as susceptible to recurring ulceration as those who have undergone gastro-enterostomy. More interesting still is the fact that achlorhydria will in many cases develop after gastro-enterostomy. After all, the crux of the matter, from the standpoint of recurrence, is whether or not the tissue resistance of the attached jejunum or duodenum has improved sufficiently so that, if free hydrochloric acid does remain in the gastric contents, recurring ulceration will not take place.

Recently my associate, Dr. Everett B. Lewis, and I have studied and reported the results of 212 consecutive partial gastrectomies for duodenal ulcer performed at The Mayo Clinic. Although they were consecutive cases in which partial gastrectomy was performed, they were not consecutive cases of duodenal ulcer; for, by using the clinic's statistics for 1938 as criteria, it is noted that the ratio of partial gastrectomies performed to gastro-enterostomies performed was about 1:2 (108 partial gastrectomies to 202 gastro-enterostomies). It is apparent that partial gastrectomy was chosen in only those cases in which it seemed that the surgical procedure could be carried out with a risk not appreciably greater than that of gastro-enterostomy. In the series which Lewis and I have reported, we were able to obtain follow-up studies in 197 (95 per cent) of the cases and postoperative gastric analyses were obtained in 116 (56 per cent) of the cases. In 134 of the cases in which the posterior Polya type of resection was performed, 3 per cent of the cases showed recurring ulceration. Eighty-one per cent of the patients were able to lead a normal life and 16 per cent required some restrictions of diet and activity to remain well. In this latter group of cases are those with so-called vagotonic symptoms of faintness and perspiration immediately after eating certain meals. A postoperative relative anacidity was obtained in from two-thirds to four-fifths of those patients who did not experience recurrent ulceration.

Gastrojejunal Ulcer: It is generally recognized that gastro-enterostomy carries a much lower surgical mortality rate than partial gastrectomy, and in our experience at the clinic, as well as is evidenced in reports from other surgical clinics, gastrojejunal ulcer appears in only about 3 or 4 per cent of the cases. We have not, therefore, been impressed with the necessity for the routine performance of partial gastrectomy for primary duodenal ulcer on a comparative basis of formation of gastrojejunal ulceration.

In this connection it is worth while calling attention to the report of a collective investigation by the British Medical Association, in 1928, into the subsequent histories of patients who had undergone gastro-enterostomy in various parts of the British Empire during the period 1920 to 1924, inclusive. In this report it was stated: "Secondary gastrojejunal ulcer occurred in 2.8 per cent of 744 cases in which gastroenterostomy was performed for duodenal ulcer. . . . The postoperative mortality was 5 per cent. . . . The results of the operation were satisfactory in about 90 per cent of the cases."

Our most recent studies concerning gastrojejunal ulcer were published in October, 1939, by Clagett, and me. We found it to be predominantly a disease of males, for in our series of 155 consecutive cases in which operation was performed for gastrojejunal ulcer at the clinic, there were only three women. The ratio of men to women, therefore, was about 50:1. The preferable procedure is removal of the gastro-enteric stoma including the gastrojejunal ulcer and performance of partial gastrectomy of the posterior Polya type. This was performed in thirty-nine cases with a mortality of 5.1 per cent. The seemingly more conservative procedures are removal of the gastro-enteric stoma and gastrojejunal ulcer. This was followed by a high incidence of recurrence of the duodenal ulcer even in cases in which pyloroplasty was performed when the gastro-enteric stoma was removed. Of the thirty-nine cases of the series in which removal of the gastro-enteric anastomosis and the gastrojejunal ulcer, and a posterior Polya resection were performed, three could not be traced. There was recurrence in four, or 11.7 per cent of the cases. Three of these four patients have since had second resections of the stomach performed leading to the supposition that an insufficient amount of stomach had been removed previously.

GASTRIC ULCER: The results of properly performed surgical procedures in selected cases of chronic benign gastric ulcer are so satisfactory and the risk of operation relatively is so small when performed by competent hands that there should be little hesitation in recommending surgical treatment for all gastric ulcers which fail to respond promptly to medical management. Recently 272 consecutive cases of chronic gastric ulcer have been reviewed in which surgical treatment was carried out at The Mayo Clinic from January 1, 1933 to January 1, 1937, inclusive. There were 220 men and 52 women in the group. These cases were followed for a period of one to five years postoperatively and this report is based on the findings in these cases.

Gastric ulcer is much more frequent among men than among women. According to Dible, 72 per cent of gastric ulcers occur among men, 28 per cent among women. Smithies found the ratio to be about 2:1. In a clinical study, at The Mayo Clinic, the proportion of men to women was 3.9:1 and at necropsy, 3:1. In our series of 272 cases in which operation was performed, there were 220 men and 52 women or a ratio of about 4.5:1.

In Stewart's extensive studies, in 90 per cent of cases, the gastric ulcer was situated within 4 inches (10 cm.) of the pylorus. In our series of cases, 30 per cent were above the angle and 36 per cent were at the angle. According to Stewart, gastric ulcers have a 10 per cent chance of becoming malignant, whereas Katsch places it at 20 per cent.

The question of whether an ulcerating gastric lesion is a carcinomatous ulcer, a carcinoma or an ulcer, or a benign gastric ulcer, is one which too often cannot be determined by the examining clinician, the roentgenologist, or even the operating surgeon. Probably all gastric carcinomas begin as small lesions but we have no means of clinically determining when the malignant changes begin. In the early stages, when surgical treatment is most effective, all these ulcerating lesions of the stomach may give all the symptoms and signs of benign ulcer with none of the distinguishing characteristics of a malignant lesion. Not infrequently, the borders or base of an ulcerating gastric lesion show carcinomatous changes, although there have been no suggestions of malignancy by clinical or roentgenologic or even surgical examination. Microscopic examination is required to determine definitely the nature of these lesions. Frequently it is impossible otherwise to determine whether the lesions are ulcerating carcinomas or carcinomatous ulcers and whether the ulcer or carcinoma is primary. That is not of prime importance, however. The fact remains that when there is malignant change the treatment consists of wide excision of the lesion by partial gastrectomy.

As Moersch and Snell have pointed out, the use of the gastroscope in the diagnosis of gastric ulcer must assume a place secondary to roentgenologic examination. However, roentgenologic diagnosis is not infallible and gastroscopy should always be considered in cases in which the clinical history is suggestive of a gastric lesion although the roentgenologic examination does not reveal any abnormality. Gastroscopy is of value in distinguishing between a benign gastric ulcer and a malignant one. It is a valuable aid in determining the effect of medical management on gastric ulcers.

The ideal surgical procedure for chronic gastric ulcer is one which removes the lesion, eliminates pylorospasm and alters gastric physiology to produce a marked reduction of gastric acidity, thus protecting against recurrence of ulceration. This is usually possible either by resection of the stomach or by excision of the lesion combined with gastro-enterostomy. However, other procedures such as simple excision of the ulcer or gastro-enterostomy have given excellent results in selected cases. The operative procedures used on our series of cases are noted in Table I. Posterior Polya resection (partial gastrectomy) was the operation used most frequently, 131 of the 272 patients having been treated in this manner and the anterior Polya-Balfour was performed nine times. The results were extremely satisfactory. Eighty-five patients responded to the questionnaire. There was an average gain of 13 pounds (5.9 kg.). Eighty patients were in excellent health without distress. Five were in very good health with only occasional, slight distress. There were nine hospital deaths in the group, a mortality of 6.4 per cent. In 1938, 215 partial gastrectomies were performed at The Mayo Clinic for benign lesions of the stomach and duodenum with a mortality of 2.8 per cent. Of these, forty-three partial gastrectomies were performed for gastric ulcer with a mortality of 2.3 per cent. Excision of the lesion with a knife or cautery combined with gastro-enterostomy was used in fifty cases. Other procedures were used much less frequently but in some cases were used to good advantage when resection or excision and gastro-enterostomy were not feasible.

TABLE I

Surgical Procedures used in this series:

	Totals
Excision of ulcer	14
Sleeve resection	10
Closure acute perforation	3
Anterior gastro-enterostomy and entero-enterostomy	5
Anterior Polya-Balfour (partial gastrectomy)	9
Excision and pyloroplasty	9
Excision and gastro-enterostomy	50
Posterior gastro-enterostomy	16
Billroth I (partial gastrectomy)	22
Posterior Polya (partial gastrectomy)	131
Total gastrectomy	1
Gastrogastrostomy	1
Exploration	1
	272

Simple excision of a gastric ulcer is not an ideal surgical procedure because it does not provide for alteration of gastric function and gastric acidity necessary to prevent recurrence of ulceration. Frequently, however, it is followed by surprisingly good results. Excision may be indicated occasionally if it can be done without interfering with normal peristalsis, and if the patient's general condition will not permit a more extensive operation. This procedure was performed fourteen times in this series, cautery was used five times, and the knife, nine times. The results were satisfactory. The average gain in this group was 15 pounds (6.8 kg.). One patient continued to have moderate distress of the ulcer type after operation and she believed that she had had one small hemorrhage. Eight of these patients experienced excellent results and five did not answer the questionnaire. Apparently, the procedure gives good results in selected cases; however, we do not recommend its use as a routine procedure.

Gastric ulcers situated high on the lesser curvature and those situated high on the posterior wall of the stomach frequently are reported on the basis of roentgenologic examination as of questionable accessibility for surgical removal. Their high situation is likely to be considered an additional reason for continuation of medical treatment which has failed to cause healing of the ulcer previously. That all benign gastric lesions should be assumed to be accessible to surgical treatment unless proved otherwise at exploration is, therefore, a point which deserves emphasis. On several occasions, because of the perforating nature of the lesion and its attachment particularly to the capsule of the pancreas, and because of contraction and fixation of the stomach in the vicinity of the lesion, the appearance has been that the lesion was higher than it really was.

Recently Cleveland and I have reviewed all of the patients operated on at the clinic during 1938 and 1939 in which the gastric lesion was at least halfway between or higher than a point midway between the incisura angularis of the stomach and the esophagus. There were seventy-six cases in which the lesion was situated as described which might be called subcardial or juxtacardial lesions. Such lesions form 12 per cent of the 542 gastric lesions for which operation was performed during 1938 and 1939. Thirty-five of the sixty-six subcardial lesions were gastric ulcers, for twenty-six of which resections were performed with a mortality of 3.3 per cent. Four patients had excisions with cautery and gastro-enterostomy; one had a simple excision, one had gastro-enterostomy with jejunostomy, and three had gastro-enterostomy without any other procedure. The mortality of the group of thirty-five was 2.8 per cent and compared very favorably with the general mortality of 3.2 per cent among sixty-two patients who had gastric ulcers and were operated on in 1938. In the series, there were thirty-four instances of subcardial or juxtacardial carcinomas for which operation was performed with five deaths, a mortality of 14.7 per cent. Of this number twenty-four had partial gastrectomy and five had total gastrectomy. In addition, there were seven cases of juxtacardial benign tumors of the stomach; these lesions were removed without mortality.

As has been indicated, whenever possible I prefer the operation of partial gastrectomy for accessible, large, perforating gastric ulcers. I use the Billroth I, the Polya, and the Polya-Balfour types of anastomosis; the choice of one of these procedures depends on the situation of the ulcer, the mobility of the duodenum, the amount of fat in the transverse mesocolon and the accessibility of the avascular spaces in the transverse mesocolon. Partial gastrectomy can be applied in nearly all cases of gastric ulceration.

In a study made of postoperative gastric acidity among patients who had had gastric ulcer and on whom different types of operations had been performed, the striking thing was the high frequency with which relative achlorhydria was the rule, provided that adequate drainage of the stomach had been obtained following operation. This was in contrast with the effect of similar types of operation performed for duodenal ulcer.

This fact undoubtedly is a very important reason why the results of surgical treatment of chronic gastric ulcer are among the best in the field of surgery. Although partial gastrectomy is the treatment of choice on proper indications, a variety of surgical procedures will give good results. Surgical treatment of gastric ulcer is indicated in any case in which response to carefully managed medical treatment fails to occur.

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The Role of Medical Schools in Public Health Education*

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QUOTING FROM Louis L. Dublin and Alfred J. Lotka, in LENGTH OF LIFE, "Modern longevity is the product of modern enlightenment. Man himself, as a physical and physiological unit, has probably changed but little since remote antiquity. But man's power over his environment has changed immensely."

One of the striking phenomena of the twentieth century and to some extent also of the last quarter of the nineteenth century has been the curtailment of premature mortality, the prevention of disease and the prolongation of the average life span of man. Since 1880 the general death rate has been diminished more than 50% and the average expectancy of life at birth has been increased from 40 years to approximately 61 years. Typhoid fever and diarrhea and enteritis have diminished almost to the vanishing point in many communities; cholera and typhus fever are rarely causes of death in this country today; the incidence and deaths from diphtheria have been greatly reduced; smallpox is under control in all communities where vaccination is practiced; bubonic plague, though endemic in certain restricted areas, is not responsible for many cases of disease or many deaths; the infant death rate has been diminished more than 75%; the death rate from tuberculosis, at one time the most important single cause of death, has been reduced 75 to 80%; hookworm is nearly controlled in the South; yellow fever is now non-existent in this country; and malaria is under better control. This remarkable progress in public health occurred during a period of rapid and increasing urbanization and congestion in this country, when conditions should have favored high death rates.

In 1937, the estimated general death rate for the United States, based on 85% of the total population, was 10.9 per 1,000 population.

The results outlined above could not have been obtained without well-organized and carefully directed health departments throughout the country.

Health departments throughout the country are organized according to the following bureaus and divisions: Syphilis Control, Tuberculosis, Pneumonia, Preventive Inoculations, Services for Crippled Children, Laboratories and Research, Maternity, Infancy and Child Hygiene, School Examinations, Dental Clinics, Field of Public Health Nursing, Disaster Relief, Control of Typhoid Carriers, Sanitary Engineering, Food Inspection, Statistics and Industrial Medicine. This extension of activities represents a wide range of responsibility but is characterized by one factor, namely, mass activity. It is reported that in some states the medical profession works no longer as individuals in public health but as team mates in public health, and through such teamwork results may be accomplished which could not be obtained by individual action.

Public health departments have had much assistance through the press, through interested public spirited individuals and has been fortunate in developing some outstanding leaders, one of whom Mississippi is fortunate in having as the head of its health department.

King Albert, of Belgium, several years ago said, "A government which holds its chief concern to be the welfare of the people is a good government whether its form be Communist, Fascist, or Democratic, and a government which neglects the welfare of the people, whether it be Democratic, Facist, or Communist, is a bad government."

It is widely recognized that the United States is undergoing some changes in its fundamental concepts of government, particularly as concerns social legislation. In order to preserve whatever is good for the pre-existing order as well as wisely to establish the new on a firm foundation, much careful thinking on the problem as a whole is needed. I propose to touch on the relationship between public health and medical education—first, in order to give a picture as to what has been done and is being done in medical schools; and second, what might be considered wise for educational activities in the future.

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As you all know, every medical school uses essentially the same curriculum, which was established by the University of Michigan and first used in 1893. This curriculum in the preclinical years includes among other things bacteriology and usually some preventive medicine, if not an outright course in public health. In chemistry and physiology references are frequently made to public health activities. The actual content of these courses varies widely. It is duobtful if the majority of medical schools today present an adequate understanding of public health activities or even of the services which are now usually expected of public health departments.

Flexner so capably pointed out in 1910 that it would be impossible to teach medicine without the students being afforded bedside teaching and considerable work in clinics. Following a similiar line of reasoning, a number of medical schools have made arrangements for public health clerkships. These clerkships provide for time to be spent by the third- or fourth-year medical students in some, if not all, of the local public health departments, including in some instances study of individual case problems under the direction of medical directors.

Vanderbilt University conducts instruction in public health largely by the case method—no lectures or other instruction on the theory or methods of medical social service. The students have learned by their own efforts under the guidance of a medical instructor who has an interest in community problems. It is apparent, however, that not only the students who have participated in the case studies but the entire fourth-year class in medicine have acquired an attitude toward medical practice which is quite different from that obtained by studying patients only in the hospital and out-patient service. Their sympathies have been broadened; the difficulties of efficient community effort have been disclosed; and the importance of the physician in participating in community efforts has been emphasized.

Dr. Harry S. Mustard, professor of Preventive Medicine, New York University, has advocated the assignment of fourth-year medical students to periods of time in a well-organized local health unit for practical instruction and public health administration as well as other phases of work, such as epidemiology, etc.

Such a plan is now being developed for public health instruction in Little Rock for the coming year. Several other schools require that their students use two or three weeks in surveying public health activities usually in their home town. It is my understanding that Harvard University uses this method. The students are required to write a detailed report evaluating the public health department.

The University of Arkansas School of Medicine has found a two-week clerkship at the State Tuberculosis Sanatorium to be very worth while. The staff at the State Sanitorium has carefully planned the time and supervises the work of these clerks. The clerks in turn feel well repaid for the time spent.

In a curriculum which is already rather crowded, to say the least, the length of these clinical clerkships in public health must be limited. The responsibility for the instruction given must rest largely on the public health departments in the neighborhood of medical schools. Of course, the clerkships without supervision or even without at least a minimum of good instruction and guidance is of doubtful value. It might even be injurious through the inadequate or even wholly erroneous concept of public health activities.

Part of this program is already set up, in that the students all work in the syphilis clinic, which is running as a co-operative project between the medical school and the public health department. An extension of these activities would include some epidemiology work in the control of syphilis. It is believed that their basic training in bacteriology is adequate enough for them to do some work in epidemiology of tuberculosis and possibly an occasional other disaese. The co-operative program is already started in the matter of home deliveries, and it is proposed to extend these activities not only in maternal welfare but in baby clinics and immunizations.

It is to be understood that these clerkships in public health do not replace classroom teaching entirely, just as bedside teaching has not replaced classroom teaching throughout the clinical years. Actually, each of the medical schools with well-planned instruction in public health is employing courses in bacteriology, pathology, tuberculosis and preventive medicine. Some schools include industrial medicine and laboratory work on one or more of the above courses, library reading and reports on some public health problem or surveys of some public health department.

The favorable attitude and influence of the faculty, particularly those affiliated with local health departments, is of tremendous importance in imbuing the student with his responsibility in the application of preventive measures. An understanding of the administrative procedures and techniques of preventive medicine and public health should cause the future practitioner to co-operate more uniformly with the state and local health organizations by participation in the public health program.

Some medical students do not grasp the meaning of public health work. They think in terms of curative medicine instead of preventive medicine, that public health work is a political appointment and not a career. Some states have civil service examinations for all members of the public health department.

The doctor of tomorrow instead of having a feeling of antagonism towards public health workers will be a public health worker himself. Then there will be less need for such large state health departments. Public health in a democracy is everybody's business.

In fact, I was interested in the statement of one public health man recently to the effect that immunizations should not be administered by public health departments any more but that they should be made the business of the general practitioner through education of the public and pediatricians, and that the public health department should now devote its activities to development of new fields.

Training schools for nurses should awaken to the fact that they too should have more public health training. Vanderbilt University includes this in the nursing program.

While contemplating some of the problems presented by public health departments, I ran across this statement of Dr. Edward L. Trudeau, which was made at the first meeting of the National Tuberculosis Association in 1905: "The first and greatest need in the prevention of tuberculosis is education of the people. If every man and woman in the United States were familiar with the main facts relating to the manner in which tuberculosis is communicated and the simple measures necessary for their protection, we might easily expect as a direct result of this knowledge a great diminution in the death rate of this disease."

We have all lived to see his prediction amply verified and the outlook on tuberculosis today is bright indeed as compared with the outlook in 1905. Today the syphilis problem faces America; and as soon as it can be divorced from its moral, or rather its immoral implications, in the minds of the public, much greater progress can be made in its control. Likewise, public health activities are spread out through each of the fields mentioned earlier in the paper, and there is consideration of extending these fields of activities still further. Would it not be wise to apply to each of those problems in turn those words of Trudeau, "The greatest need is education of the people."

Experience in tuberculosis and among other diseases, notably malaria, has taught that education of the doctors alone is not sufficient to solve the problems. Voluntary workers, various tuberculosis associations, visiting nurses' associations, women's clubs of various types, the radio, newspapers, magazines and other printed matter, and large corporations—all, as educational facilities, have proved their effectiveness.

Some candid writer in a British medical journal a few years ago pointed out after a trip through America that, although he was quite sure that the British Dominions had a much better public health system and that they had a smooth working organization which was definitely superior to that found in America, yet he believed that there was better public health practiced in America than in England itself as well as a number of the Dominions—due to the fact that the average public health officer in America takes his responsibility more seriously and attacks the problems with more energy.

The trend in America today seems to be leaning strongly towards more organization and extension of the responsibilities. We are speaking here of the public health departments. One of the functions which the public health departments has done rather well in this country is the gathering of statistics. Even a casual analysis of these statistics presents many problems. The normal reaction for a normal individual is to find some solution to the many problems constantly filtering through public health departments.

The problems concerning health today are found in every walk of life. Newspapers, magazines, radio, public forum are some of the mediums of exchange of ideas. Public health departments have greatly extended the scope of their activities in recent years. They are faced with many, many problems. For example, maternal and infant death rates compiled in America define clearly the problem of maternal welfare. Much has been accomplished. Many agencies have been enlisted to aid in solving this problem of maternal welfare, but the public health departments through their full time men have been leaders in the progress so far made.

It is perfectly logical thinking that makes one ask, "Well, what's the use of getting a child well born if you do not see that it is well nourished and given a good start in life?" Hence, the welfare departments, and they have done valuable work and again they have enlisted the services of many agencies.

Just when does a child cease to be the recipient of assistance and supervision from public health departments where child welfare work is well on its way?

It may be that Dr. Alfred E. Shipley, of the Long Island College of Medicine, has pointed out the dividing lines when he indicates the normal in maternal welfare and child welfare, and we can differeniate the functions of public health departments in the future on the basis of what concerns the normal physiological functions of individuals as compared with the pathological findings in man. The latter, of course, should be the concern of organized medicine.

Is it not possible that over-extension of activities on the part of public health departments might not weaken their whole program? Is it not possible that there are enough agencies for the present?

There is need of a closer partnership between the physician and the worker in preventive medicine that would accomplish the ideal referred to by Sir William Osler when he said: "From over-specialization scientific men are in a more parlous state than are the Humanists from neglect of classical traditions. The salvation of science lies in a recognition of a new philosophy—the scientia scientiarum, of which Plato speaks: 'Now when all these studies reach the point of intercommunion and connection with one another, and come to be considered in their mutual affinities, then, I think, and not until then, will the pursuit of them have a value'."

There has been frequently much criticism, some serious, over the displacement of energies and at times over-lapping of activities in the national public health work. For example, in the W. P. A., and the F. S. A., the Secretary of State includes in each a division of public health, the last with physicians stationed in foreign ports; Department of Labor has a children's welfare bureau; Department of Commerce supervises vital statistics; Department of Agriculture controls pure foods, drugs and cosmetics.

In view of this and many other illustrations of medicine, public health activities and hospitals scattered through different governmental departments, would it be out of order to call attention again to the platform of the American Medical Association?

The American Medical Association advocates:

1. The establishment of an agency of the Federal Government under which shall be coordinated and administered all medical and health functions of the Federal Government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need, for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

DISCUSSION

Felix J. Underwood (Jackson, Miss.) When I first saw the title to Dr. Cromer's paper, "The Role of Medical Schools in Public Health Education," two distinct themes seemed to stand out—both equally important. First, there was the role of adequately training those individuals wanting to enter the public health profession, so that they would later be able to make worth while contributions to public health education. Second, there was the suggestion that all medical students should be given more thorough training in public health methods, thereby inculcating a greater sense of social responsibility, and equipping them—whatever chosen specialty—to teach the fundamentals of public health wherever opportunity afforded. And there was even the further suggestion that it might mean the role of the university in providing material and speakers for various adult education groups on matters pertaining to public health.

The medical schools share a real responsibility in all phases of public health education; and it is my belief that this responsibility can best be met through the establishment of a full-time department which confines its activities to an adequate presentation of the problems of public health and the organizations which deal with them. Only 18 medical schools in the country had full-time departments of public health from 1934 to 1936, according to a comprehensive survey of medical education in the United States for the last five years (1934-1939). Twenty-five medical schools included or combined preventive medicine, public health and hygiene with bacteriology. Of course, we recognize that in the teaching of public health no small part is played by such fundamental sciences as physics, chemistry and biology. etc. The expansion and development of these subjects, as is ably pointed out by the A. M. A. Council on Medical Education and Hospitals, have furnished new principles and methods by which physiology, genetics and immunology can be employed in the prevention of disease. It is clear also that bacteriology and immunology are against communicable diseases. At the same time, according to some of the best thinking of our times, if we are fully to develop preventive medicine and public health, it should be recognized and made a distinct department of the medical school.

A Canadian professor last year made a very timely presentation before his national public health association. Because his closing remarks are so applicable to the point here, I should like to repeat them to you, and to say that I am heartily in accord with him:

"As a worker in the field of science I am proud of the contributions of science toward increasing the safety and comfort of mankind. But it is also because I am a scientist that I realize and must point out the eternal limitation of science: **Science can only tell us what we can do—what we ought to do—but it can't make us do it.** With regard to the old copybook phrase, "Knowledge is power," it should be pointed out that knowledge is **not** power. Knowledge is a **tool,** not a force. It is produced by an ideal; it must be activated and applied by an ideal."

Fraser, Roy: What Can the University Contribute to Public Health Education, Canad. P. H. Jour. 30:424-430, 1939.

A. M. A. Council on Education and Hospitals—Med. Education in the U. S., 1934-1939.

Dr. Maxwell E. Lapham: Medical schools have a great responsibility so far as community health is concerned, and this is being realized more as time goes on. Instead of the narrow role they used to play in preparing a man for the private practice of medicine, they are now realizing their duty in educating the public and interesting themselves in conditions affecting the health of the community.

There is a definite effort to inculcate the philosophy of prevention into the thinking of medical students, and, as Dr. Cromer has said, with this teaching every practicing physician should be a public health officer in his every day practice.

The old order of teaching has laid stress on pathology and therapy—eliminating prevention of disease almost entirely. Prevention should be so much a part of the teaching program that every student would approach the individual case with that idea in mind. If it be an infant, immediate thought should be given to immunization against several diseases, as well as to dietary control of deficiency diseases. Investigation of family and housing conditions should be considered as well. If the disease is possibly tuberculosis or syphilis, the family and community implications should immediately come to mind. I think you can see that with this kind of instruction the future practice of a student would lessen the work of organized public health.

Prevention is being taught more and more in all branches of medicine, not only in relation to infectious infestational and deficiency diseases but in the surgical branches as well.

I mention peripheral vascular diseases, endocrinology, which is decimating gynecological operations, and prenatal care, which is eliminating much obstetrical surgery.

I would welcome the time when a department of preventive medicine as such in a medical school would no longer be necessary, and this could be realized if every instructor did his full duty of teaching. However, until that time comes, schools must concentrate on that aspect of medical teaching. They must also be responsible for instruction in public health and administration. In order that trained physicians can be made available for this work, several schools in the country have made themselves responsible for this graduate instruction, and other schools should follow suit.

Public health has had to sell itself in many instances without the support of any other medical group—oftentimes in the face of open opposition.

Medical schools **should be and are** giving active support to and are co-ordinating with public health projects, not only by educating students in the sound philosophy and methods of public health, but also in educating the public to the realization of the importance of community control of disease. The following means are available:

1. Public relations and lay health organizations. Talking to lay groups.
2. Interesting public in health legislation.
3. Extension programs, lay talks.

Finally, medical schools should exemplify good preventive medicine. They should be the fountain heads in preventive medical instruction and example.

The trends in teaching which I have mentioned are consistent with the platform of the American Medical Association which Dr. Cromer has presented to you, and I believe if they are furthered will in no way detract from the private practice of medicine, but will, in fact, increase its possibilities and improve immeasurably the health of the nation.

Dr. Irving Abell: I did not expect to say anything this afternoon, intending to save all my energies until tonight. I do, however, appreciate more than I can tell you your courtesy in inviting me to be a guest at your annual meeting, and I have particularly enjoyed the papers and the discussions. In the last few years, I have been in a position to know the value of all that has been said to you by the essayist, and those who have discussed these papers. I think the medical profession of this country realizes that the public health is just as much a part of medicine as is gynecology, obstetrics or general practice, and the establishment and extension of that activity is of vital consideration to the community. Until the medical profession becomes thoroughly imbued with this idea, and works hand in hand with the health officers, we cannot have a distribution of medical care on a basis which our knowledge of the science of medicine really demands.

As to the statistics which Dr. Underwood has given you, I think that every state in the Union in which there are all-time health departments are also counties in which there are no full-time health departments. In Kentucky we have no typhoid fever in counties where there are all-time health departments. We have no smallpox; we have no diphtheria, and I personally think that every one of us, regardless of what our specialty happens to be, should co-operate with this movement.

Dr. Cromer (closing): I thank these gentlemen for their remarks and kindness in discussing this subject.

Essential Hypertension; Modern Aspects of Diagnosis and Management*

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We MAY DEFINE the condition most widely known as primary or essential hypertension, as one in which there is a persistent elevation in both the systolic and diastolic blood pressures, not accompanied by endocrine or vasomotor disorders and seen in patients without such primary renal disease as acute and chronic glomerulonephritis, pyelonephritis, polycystic kidney disease, severe amyloidosis of the kidney and periarteritis nodosa of the renal vessels. Essential hypertension is, by all odds, the most common type encountered in medical practice and is a symptom so often found in a large number of individuals over forty years of age, who ultimately succumb to heart failure, a cerebral accident or to renal insufficiency. Since more individuals are reaching the later decades of life than ever before, essential hypertension, like cancer, is increasing in frequency, and is now one of the most common problems with which the practitioner has to deal.

The Pathogenesis of Essential Hypertension.

Until quite recently, the etiology of essential hypertension has been wrapped in obscurity, but thanks to the classic experiments of Goldblatt and his associates[1], facts have replaced fancies and the shadows hitherto surrounding the pathogenesis of essential hypertension are rapidly waning.

In interpreting his observations, I am not unmindful of the limitations imposed in applying the result of animal experimentation to the problem of human hypertension, but in the face of such clear-cut facts the risk of speculation is greatly reduced. Goldblatt's experiments have been repeated and verified by many workers both here and abroad, and since the results appear to be a landmark in our knowledge of the subject, it seems advisable to present at this time, a brief resumé of our changing conceptions during the past century regarding the relationship of hypertension, kidney disease and arteriosclerosis.

With no means of determining clinical pressure, Richard Bright[2] in 1836 postulated an abnormal peripheral resistance in the arterioles and capillaries to account for the thickened arteries and hypertrophied hearts, which he found so frequently at post mortem in patients exhibiting scarred kidneys. Believing that the changes in the heart and arteries were due to kidney disease, it may therefore be said that Bright was the first to consider the renal origin of hypertension. George Johnson[3] in 1868 confirmed Bright's observations and agreed that cardiac hypertrophy, as well as diffuse vascular sclerosis, was secondary to renal disease. A dissenting opinion appeared in 1872, when Gull and Sutton[4], impressed by the diffuse vascular lesions which they called "arterio-capillary fibrosis" said: "these changes are, or may be, indipendent of renal disease, and that the renal change in chronic Bright's disease with contracted kidneys, when present, is but a part of general morbid conditions." In thus concluding that diffuse vascular disease is a primary pathologic entity responsible for increased arterial pressure, Gull and Sutton founded a school which stressed the non-renal origin of hypertension, a conception which as we shall see, has influenced accepted views even to the present day.

With the introduction of the sphygmomanometer, it was natural that attempts were made to correlate hypertension with arteriosclerosis, but exceptions soon appeared, and in 1893 von Basch[5], after observing many cases of hypertension with no demonstrable changes in the arteries, concluded that the elevation in blood pressure was but a precursor of arteriosclerosis.

Impressed by the large number of hypertensive patients who did not have widespread vascular disease, Huchard[6] in France and Albutt[7] in England concluded that hypertension was due to a generalized vaso-constriction. There remained the question of what caused the vaso-constriction, but the kidney was not seriously considered as playing a major role in the production of this type of hypertension.

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Up to the turn of the century there were three schools of thought concerning the interrelation of hypertension, arteriosclerosis and renal disease: (1) the followers of Bright, who believed that hypertension was due primarily to renal disease, (2) the followers of Gull and Sutton, who ascribed hypertension to widespread vascular disease, and regarded the renal lesions as purely secondary, and (3) those who believed with Albutt that hypertension was due to generalized vaso-constriction unrelated to renal disease. As yet no clear distinction between the various types of kidney disease, as we now know them, had been made. Kidney lesions were described as "large and smooth" and "small and granular," exceptions being regarded as intermediate stages in the process of development from the large to the small kidney. It was not until 1904, due largely to the work of Jores[8], that two distinct types of contracted kidneys were recognized, the inflammatory and arteriosclerotic. Thus appeared an atomic basis on which the clinician might distinguish nephritic hypertension—the elevation in blood pressure that is often associated with primary inflammatory kidney disease such as acute and chronic glomerulonephritis. There remained, however, a much larger group of hypertensive patients who died of heart failure or of a cerebral accident without evidence of renal insufficiency. This fact has always been a barrier to the view that the hypertension in such cases was of renal origin.

A great advance in this field was made in 1914 by Volhard and Fahr[9], who showed that the kidneys of patients with essential hypertension were scarred as a result of more or less diffuse sclerosis of the smaller renal arteries, and the term nephro-sclerosis was introduced to designate the condition. Volhard and Fahr recognized two general types of essential hypertension (1) the benign which pursued a chronic course without evidence of renal excretory insufficiency and (2) the malignant, which progressed rapidly to renal failure with death in uremia.

From 1914 to the present, both clinicians and pathologists have recognized that individuals with essential hypertension have pathologic changes in the smaller renal vessels in a high percentage of cases in which necropsy is done. For example, Bell and Clawson[10] in 1928 reported observations on 420 autopsied cases of essential hypertension in which renal arterial disease within the parenchyma of the kidney was found in 97.6% and sclerosis of the afferent glomerular arterioles in 89.4%. In spite of these results Bell and Clawson stated: "We do not have any theory of the etiology of primary hypertension to propose." As late as 1934, Fishberg[11] in his book on hypertension and nephritis, expressed the commonly accepted view regarding the non-renal origin of essential hypertension, when he stated: "Hypertension, like a fever, is merely a symptom and not a disease; sometimes hypertension is produced by renal disease, but more often it is not."

Coming now to the present day concepts of clinical hypertension as presented in most textbooks on the subject we may summarize them as follows:

(1) Hypertension admittedly of renal origin, associated with glomerular nephritis, urinary obstruction, polycystic kidney disease, periarteritis nodosa with marked renal involvement and severe renal amyloidosis. With clear evidence of primary kidney disease in such cases, the renal origin of the hypertension is generally accepted.

(2) Essential hypertension, as we have seen, is not generally believed to be of renal origin because: (a) There is no demonstrable renal excretory insufficiency in the majority of cases. (b) Most patients with essential hypertension die of heart failure or a cerebral accident without ever showing renal insufficiency. (c) Occasionally a case of essential hypertension is reported as exhibiting no anatomic evidence of renal arteriolar disease.

Let us now examine the foregoing arguments advanced to support the hypothesis of the non-renal origin of essential hypertension in the light of recent animal experiments which show clearly the role of the kidney in arterial hypertension. Goldblatt has shown that constriction of the renal artery of one kidney in both the dog and the monkey causes an elevation in the systolic and diastolic pressures which lasts for weeks or months, whereas, narrowing of both renal arteries at once or after an interval results in persistent hypertension, which has continued in some animals for ten years. The elevated blood pressure following the constriction of one renal artery promptly returns to normal on either removal of the ischemic kidney or release of the clamp on the artery—a crucial experiment illustrating the role of the kidney in raising blood pressure. Chronic hypertension is observed in animals that show no evidence of renal excretory insufficiency. This is the experimental counterpart of so-called benign essential hypertension in man. Also the picture of malignant hypertension with uremia, including widespread arteriolar necrosis, can be produced almost at will by further narrowing of the renal arteries. In other words, a dog with benign hypertension lasting for several years may be thrown into the malignant phase with uremic death in a few days; or the acute malignant phase can be produced in the beginning by severe constriction of both main renal arteries. In these experiments is seen the same baffling picture which has puzzled clinicians for the past hundred years, namely, the occurrence of hypertension not only with, but without renal excretory insufficiency; yet the elevation of blood pressure in both instances is clearly of renal origin. Thus the argument that essential hypertension cannot originate from the kidney because there is often no accompanying impairment of renal excretory function is no longer valid.

The failure to find renal arteriolar disease in a few persons with essential hypertension is often cited as evidence that elevated blood pressure has nothing to do with the kidney, but the possibility of severe sclerosis of the main renal arteries sufficient to cause renal ischemia has not been excluded. Until recently such cases have been overlooked and classified as instances of essential hypertension without renal arteriolar disease.

The experimental hypertension in animals without demonstrable evidence of renal excretory insufficiency is the experimental analogue of benign hypertension commonly seen in patients. Similarly, when the renal arteries of these animals are still further constricted uremia develops with extensive retinal lesions, and post mortem examination shows arteriolar necrosis like that observed in malignant hypertension in man.

For the production of arteriolar necrotic lesions in the animal two factors are essential: (1) Hypertension and (2) progressive renal insufficiency—the same combination that always occurs in the malignant phase of essential hypertension in man.

Whether the hypertension associated with primary renal disease also results from renal ischemia is a problem for the future to disclose, but it is likely that such disease of the kidney may so alter its circulatory dynamics that the functional effects on systemic blood pressure may be the same as in primary vascular disease.

All the experiments bearing on the pathogenesis of the hypertension induced by renal ischemia, indicate that it is not of reflex nervous but of humoral origin. Some chemical substance circulating in the blood and formed as a result of renal ischemia constricts the peripheral arterioles and thus elevates the blood pressure. By the same mechanism, human essential hypertension is best explained. In support of this view is the recent work of Printzmetal and Wilson[12] and of Pickering[13], who have demonstrated that essential hypertension in man is not of vasomotor origin.

Although Goldblatt's work throws no light on the nature of human arteriosclerosis, it goes far in clearing up the problem of hypertension, which has baffled clinicians for decades. It is now possible to understand why patients exhibiting sclerotic changes in the vascular system may or may not have arterial hypertension. If the renal vessels are sufficiently involved in the process, hypertension appears; if they are spared, the patient may show no significant elevation in blood pressure, in spite of widespread arteriosclerosis elsewhere in the body. Furthermore, it now appears that the clinical course pursued in hypertension is determined primarily by the progress of the vascular disease in the kidney. This in the majority of cases is sufficient to cause chronic hypertension, but not rapid enough to impair renal excretory function. Thus most hypertensive patients die of heart failure or of a cerebral accident before uremia develops. However, the renal vascular changes may progress to a point when the clinical picture of so-called malignant hypertension with uremia appears. In other words, the progress and extent of the vascular disease in the kidneys determine whether essential hypertension runs a benign or a malignant course.

As a pathologist, Jean Oliver, in discussing the so-called normal senescence of man, says: "As a part of the senescent process there develops a generalized sclerosis of the smaller arteries. The vascular changes within the various tissues and organs may be severe, but there is no evidence that compels the conclusion that these lesions produce an elevation of blood pressure. If the arterial change within the kidney is sufficient to produce renal ischemia, however, hypertension follows. Depending on the degree of renal arterial involvement, the hypertension may be benign and senility end with mild circulatory difficulties and a beneficent bronchopneumonia; or more grave, cardiac failure or cerebral accident, depending on the local condition of the blood vessels, may terminate in more dramatic fashion life's last episode. By such concept it is not so much vascular senescence, common to all organs and tissues, that determines the ultimate outcome, but a disturbance within the kidney is the final and actuating mechanism of senile circulatory failure and accident. A man's arteries may be old, but only if his kidneys are spared does his senescence approach the biological ideal of a gradual and peaceful decline."

Looking back over the past century we see Bright's original postulate regarding the renal origin of hypertension, at first accepted, then questioned and finally in recent years, largely rejected. Now, as a result of Goldblatt's epoch-making work, the pendulum swings back, the kidney assumes the major role in the etiology of essential hypertension and Bright stands vindicated, although it has taken more than a hundred years to do it. Thus slowly our knowledge advances. May we pause here to mention the interesting fact that the significant milestones in our understanding of blood pressure have appeared at intervals of approximately a hundred years. In 1626 Harvey discovered the circulation of the blood, in 1733 Hales first showed that blood in mammalian arteries was under considerable pressure, in 1836 Bright postulated and in 1932 Goldblatt demonstrated the renal origin of hypertension.

Accepting the view that human essential hypertension is a symptom of renal vascular disease, the question naturally arises: What causes the sclerotic changes in the kidney vessels? Since these changes differ in no fundamental way from those seen in other arteries, our problem is, in reality, that of human arteriosclerosis. Here we stand on the threshold, three centuries after Harvey, facing in almost complete ignorance the greatest unsolved problem in medicine today. As Albutt once said, "We are groping in the dark for something in the dark ".

Statistics from many sources point to the steadily mounting incidence of vascular disease, and show that it is killing more than twice as many people as any other disease. It is, at the present time, the chief barrier to longevity and the major factor determining individual expectancy. How often we see individuals in the prime of life struck down by vessel decay. It is exacting a formidable toll in our ranks in the form of coronary thrombosis, hypertensive heart disease, cerebral hemorrhage and thrombosis. In the face of such facts we strive to explain them, only to find that our ignorance of this most common affection far overshadows our knowledge. Hypotheses there are in abundance, but these frequently express opposite views concerning the cause and nature of human arteriosclerosis. Obscure as the etiology of human arteriosclerosis is, clinical experience and that refined form of it we call statistics, indicate the important role that heredity plays in determining the wearing quality of our arteries.

An inherited pre-disposition to early vascular disease and a familial tendency to essential hypertension in many cases, are well established. As more people are now surviving to the later decades of life than ever before, and as more weaklings are reaching maturity to propagate their inferior stock, one sees little hope either of preventing the disease or of reducing its mounting incidence in the future.

Post mortem experience shows that arteriosclerosis is most capricious in its distribution, appearing in the greater circulation from the sinus of Valsalva to the remote ramifications of vascular tree, and for some reasons not known at present, the arteries of the lesser circulations, in most cases, are singularly spared. The process may be generalized in some instances and sharply localized in others. The functional significance of arteriosclerosis varies greatly: often there is no parallellism between the extent of the process and the associated functional disturbances.

For instance, we see extensive changes in the larger arteries that offer no barrier to longevity, and on the other hand, the process may be confined to a few millimeters of the coronary artery and cause sudden death in the prime of life. The affection, particularly in young people, may involve the renal vessels and, advancing rapidly, lead to marked hypertension and death in uremia. It is apparent, therefore, that we must be prepared to see a great variety of clinical pictures associated more or less intimately with vascular disease and whether or not there is an accompanying hypertension depends on whether the renal vessels are involved in the process. Thus we see examples of coronary arteriosclerosis with the clinical picture of angina pectoris or coronary thrombosis, in patients who have hypertension and also in patients who have never had an elevated blood pressure. Also cerebral arteriosclerosis leading to the clinical picture of senile dementia or hemiplegia occurs in patients who may or may not have had hypertension. But since the renal vessels are so commonly involved in the arteriosclerotic process we observe hypertension in many individuals with vascular disease. It seems logical to assume that the hypertension per se may hasten vascular decay, that the arteriosclerotic process may be accelerated in a vessel forced to withstand an increased intravascular pressure, but sound evidence bearing on this relation is not at hand.

EXAMINATION OF THE PATIENT WITH ESSENTIAL HYPERTENSION

As we have seen, the elevation in blood pressure should be regarded as a symptom serving to direct our attention to a careful examination of the patient's entire vascular system with particular attention paid to any subjective evidence pointing to an impaired circulation in three vascular beds: heart, brain and kidneys.

Experience teaches that the symptoms, clinical course and life expectancy of the majority of hypertensive patients are determined by (1) the capacity of the heart to meet the demands thrown upon it, (2) by the wearing qualities of the cerebral arteries and (3) by the functional capacity of the kidneys. Evidence, therefore, which may throw any light on the state of the vessels in these areas or on the rate at which the sclerotic process is advancing, may be valuable in prognosis and in the sound management of the patient. The discovery of an elevated blood pressure only marks the beginning of an adequate survey of the problem.

THE HEART IN ESSENTIAL HYPERTENSION

It is obvious that the heart bears the brunt of the burden in hypertension, and it is therefore not surprising that more hypertensive patients die of cardiac failure than from any other cause. The left ventricle hypertrophies to meet the increasing demands and may continue competent for many years, but sooner or later its reserve becomes exhausted and we have such early symptoms of an overworked heart as breathlessness on exertion and nocturnal attacks of cardiac asthma. At this stage the heart may be demonstrably enlarged, the left ventricle may be dilated and one may hear an impure first sound or the apical systolic murmur of relative mitral insufficiency. Other valuable signs of a failing left ventricle are a gallop rhythm and a pulsus alternans, the latter often detected by the use of the blood pressure cuff. Over the range of a few millimeters under the systolic pressure only half the beats are heard with the stethoscope. Since well over fifty per cent of hypertensive patients have significant coronary artery sclerosis, we may encounter angina pectoris or coronary thrombosis before any evidence of myocardial failure appears. Aware, therefore, of the load carried by the heart in hypertension, the practitioner is not surprised that it should finally fail. More remarkable indeed is it that the heart is able to carry on as long as it does in many cases.

CEREBRAL MANIFESTATIONS OF ESSENTIAL HYPERTENSION

The vast majority of hypertensive patients have at post mortem, well marked cerebral arteriosclerosis, and depending on the site and extent of the process, we may have a variety of clinical pictures. For example, one observes transient attacks of aphasia, paresis or paralysis and other focal brain symptoms which may continue for a few minutes or hours and clear up suddenly and completely. Widespread cerebral arteriosclerosis may lead to atrophy of the brain and the picture of so-called senile dementia. Cerebral thrombosis or hemorrhage may occur and produce the well known picture of apoplexy and paralysis. It is not unlikely that many of the nervous symptoms observed in some hypertensive patients, for example, headache, vertigo, insomnia, etc., are due to sclerotic changes in the cerebral vessels. The limitations imposed by cerebral vascular disease often spares the heart so that one sees patients recover from an apoplectic stroke and survive for several years, in spite of a well marked hypertension.

KIDNEYS IN ESSENTIAL HYPERTENSION

We have pointed out that the smaller renal vessels are involved at necropsy in the vast majority of patients who exhibit essential hypertension during life and we have subscribed to the thesis that hypertension in such cases is a symptom of the renal vascular disease. We recall also that for many decades after Bright, the chief barrier to the view that hypertension was of renal origin, was the fact that the vast majority of hypertensive patients never develop renal excretory insufficiency but succumb to heart failure or a cerebral accident. Only about ten per cent of the cases develop renal insufficiency and die in uremia and the majority of these are young people. It is in this type of case that we most often encounter the so-called malignant type of hypertension in which for reasons not understood, the renal vascular disease runs a rapid course, the kidney function is soon impaired and death in uremia ensues. The most reliable clinical evidence that a case of hypertension has progressed to the malignant state with death from uremia imminent, is afforded by the ophthalmoscopic examination of the eyegrounds. Here one sees edema of the disc as a characteristic feature of the neuro-retinitis, as well as old and recent hemorrhages. Such changes in the eyegrounds may ante-date by several weeks or indeed months the appearance of significant renal excretory insufficiency and uremia.

Changes observed in the fundus oculi are common and often of great diagnostic import in all cases of hypertension. Narrowed retinal arteries from vaso-constriction may appear early in essential hypertension and sclerosis of the retinal vessels affords valuable evidence supporting diagnosis in questionable cases. Many cases of benign hypertension may have some impairment in renal function as indicated by an inability to concentrate urine although they may never progress to the stage of renal insufficiency. It is well to mention here that the appearance of edema in essential hypertension is almost always cardiac and not renal in origin since, as we have seen, heart failure is common, renal failure is rare.

TREATMENT OF ESSENTIAL HYPERTENSION

We may take it as a self-evident proposition, that the sound management of a sick patient depends on the physician's knowledge of the disease process responsible for the clinical picture he observes. The more accurate information we have regarding such questions as the etiology of the disease, its natural course, its amenability to any form of treatment at present available, the more rational will be the treatment the patient receives. Sound therapeutics have ever followed in the wake of advancing knowledge of disease. Our changing conceptions have often caused wide swings of the therapeutic pendulum. For example, it was not so long ago that the physician felt impelled to administer an anti-pyretic to lower the body temperature in many cases; now we are actually producing fever artificially, secure in the knowledge that the patient dealing with many infections fares better with a natural elevation of temperature than with one lowered by drugs. May not the same general principle apply to the treatment of essential hypertension? May not the elevation in systemic blood pressure in essential hypertension be a natural response to guarantee a more nearly normal circulation in such organs as the heart, brain and kidneys? Until such questions can be answered in the negative, they merit serious consideration in any discussion of the therapeutic management of essential hypertension.

Too often our therapeutic efforts are focused entirely on ways and means of lowering the blood pressure, whereas, our zeal in this direction should, at least be tempered by the evidence indicating that essential hypertension is but a symptom of renal vascular disease which is, in turn, one manifestation of human arteriosclerosis. Therefore, the therapeutics of essential hypertension is fundamentally that of arteriosclerosis.

Since the role of renal ischemia in causing hypertension is now firmly established, every hypertensive patient should be carefully studied, so that instances of unilateral renal disease may be apprehended and cured by operation. Several such cases have been reported in the past two years. The elevated blood pressure promptly returns to normal upon operative removal of the diseased kidney.

MANAGEMENT OF THE ASYMPTOMATIC PATIENT

It is well known that many hypertensive patients carry on in a normal way for years until they learn of their elevated blood pressure.

How often one sees such individuals running from one physician to another to have their blood pressure taken, and to what avail. Unnecessary restrictions of one kind or another are imposed which do no good and only remind the patient that he must be in a bad way. He may envision a stroke of apoplexy and his emotional reaction to the situation may result in a considerably higher blood pressure. It is well to emphasize, therefore, that many cases of essential hypertension not only do not need any treatment but are much better off without it. Generally the less said about the blood pressure in such people the better. Since individuals with essential hypertension deal with a chronic affection, they are easy prey and are often victimized. By following some course of treatment a cure may be subtly implied if not promised. For such patients sound medical counsel is of vital importance and in managing them, nothing quite takes the place of the homely quality we call common sense. To institute a sensible régime of living to the end that the patient exercise moderation in all things, is our first consideration. An effort should be made to dispel any phobias engendered by previous mismanagement. For example, hypertensive patients are told not to eat meat, particularly in the form of red meat, and many develop a veritable phobia about meat in any form. Rigid protein restriction does no good and may actually cause anemia and general body weakness which often disappears as the patient resumes a normal protein intake. The same may be said of all special dietaries that have been suggested for the management of essential hypertension. Rigid salt restriction, for example, has been advocated, but no sound evidence is at hand to show that hypertensive patients do any better on a salt poor diet than on one containing sufficient sodium chloride to make food palatable. To enlist the active cooperation of the patient is not always easy, but none the less important. He should be told, in words he can understand, something of the nature of his disease and here one should avoid reference to possible future complications such as heart failure or cerebral accident which may be years in the future. The elevation in blood pressure may be explained as a natural result of the changes in the arteries with advancing years and, possessing no specific remedy to put back the hands of Time, we should not promise the patient a cure, but rather impress him with his own responsibility in the case of his problem. His willingness and ability to adjust his life to whatever sensible restriction may seem indicated, may be of vital importance as the years go by. There is little to lose and much to be gained by reassuring the patient, even though we believe that his future is not cheerful. Such questions pertaining to his outlook should be discussed with some responsible member of the family.

TREATMENT OF HYPERTENSIVE PATIENTS WITH SYMPTOMS

Here we deal with a large group of patients with essential hypertension who sooner or later consult us for symptoms other than those arising from a failing heart, a cerebral accident or renal insufficiency. Headache is perhaps the most frequent symptom encountered although patients also frequently complain of tinnitus and dizziness. In the management of such cases we should be guided by the same general principles outlined above. Faulty habits should be corrected, excesses in all directions avoided and adequate physical and mental rest obtained by the use of sedatives if necessary. Because of the well known effects of suggestion in many cases, informal psycho-therapy may be tried. The diligent administration of a placebo is often effective. Thus Ayman[14] found that a daily dose of dilute hydrochloric acid caused a definite improvement in symptoms in 82% of a series of carefully controlled patients with essential hypertension. The symptomatic improvement following such measures, as well as the spontaneous fluctuation in blood pressure seen in many instances, forces one to be very critical in evaluating the alleged specific effect of the numerous remedies that have been suggested for the treatment of essential hypertension. Among these we may mention dietary restriction of meat and salt, high colonic irrigation, the extraction of teeth and tonsils, abstinence from alcohol, tobacco, tea and coffee, the injection of a variety of endocrines, the excision of part or nearly all of the autonomic nervous system, etc.

Appreciating that the elevated blood pressure is a symptom of a chronic and (so far as we know) incurable disease, and aware of its mounting incidence, we are not surprised that a wide variety of drugs has been used or that none of them has won universal acclaim. Too often conclusions are reached from uncontrolled clinical observations and certain remedies are praised for a short time only to be found valueless upon more careful investigation. Such has been the story of the vast majority of remedies advocated for the treatment of essential hypertension. In a recent carefully controlled study, Evans and Loughman[15] observed the effect on the blood pressure and symptoms of 33 different preparations in seventy patients over a period of one and a half years. When the results were compared with those obtained by giving a placebo, they found no hypotensive effects in any of the 33 preparations used. They found that following the use of 6 drugs; bismuth subnitrate, iodine, and iodides, sodium luminal, theominal and potassium sulphocyanate, symptoms were relieved rather more than with a placebo. Also sedative drugs were of value in the temporary relief of nervous symptoms in some cases. As the authors state: "These results may surprise some, but they are in accord with the experience of many physicians."

Of the drugs employed at the present time for the treatment of essential hypertension, the sedatives are most often effective in controlling nervous symptoms. The relaxation induced by a good night's sleep may also cause a considerable fall in the blood pressure. The bromides, barbituric acid derivatives, such as phenobarbital, and chloral hydrate, singly or in combination, are effective; and in the extremely nervous patient one may use codeine or even on rare occasions, morphine.

The nitrites which lower blood pressure by peripheral vasodilatation, have been widely used in patients with essential hypertension. Their action, however, is fleeting and except in individuals with angina pectoris their therapeutic value is limited. Symptomatic relief does not always follow a lowering of the blood pressure; indeed some patients feel worse as their pressure is lowered by nitrites. On the other hand, nitrites may relieve headaches in some hypertensive patients who are subject to periodic elevations of blood pressure above the level they ordinarily maintain.

The lowering of the blood pressure with amelioration of symptoms has been reported from the use of the sulphocyanates in about one-third of the cases treated. To avoid the appearance of toxic symptoms such as nausea, vomiting, delirium, exfoliating dermatitis, Barker[16] has suggested a method to control the blood level of the drug. By maintaining this between 6 and 12 milligrams per hundred cc. of serum, the more serious complications are prevented. However, the risk of toxic symptoms precludes the routine use of the sulphocyanates, but when controlled by regular estimation of the blood concentration, they may be given to a patient without renal impairment, whose symptoms have proved refractory to all other forms of treatment.

The blood pressure lowered by sulphocyanates returns to its formal level with discontinuance of the drug and whether or not the patient receives any permanent benefit from its use is a matter difficult to decide.

Of the scores of other drugs, including various organ extracts that have been used to lower blood pressure, little need to be said here. The administration of estrogenic substances such as ovarian extract often gives marked symptomatic relief to women in the menopause, but it is difficult to determine whether the fall in blood pressure observed in cases results from the medication or from the relief of such menopausal symptoms as hot flushes, emotional instability, insomnia and various other nervous symptoms.

Venous section is a valuable therapeutic measure in cases of heart failure with cardiac asthma but it is of little value in lowering an elevated blood pressure. In the first place, the actual drop in pressure resulting from the removal of 500 cc. of blood is slight in most instances and secondly, the pressure rapidly returns to normal after the venous section.

The latest suggestion to appear on the therapeutic horizon for the treatment of essential hypertension comes from the surgeons who propose a variety of operative procedures designed to denervate (1) the splanchnic vessels (2) the kidneys and (3) the adrenals, with or without adrenalectomy. It seems a far cry to hope that the section of nerves anywhere in the body will remove the cause or influence the course of renal vascular disease; therefore, an operative cure for essential hypertension appears quite out of the question. On the other hand, an operation which actually increases the blood supply to the kidneys might possibly lower the systemic blood pressure and serve as a palliative measure in the management of cases of essential hypertension. In spite of the favorable results as reported by some surgeons, we have as yet no sound evidence to show that their benefited patients live any longer or that the operation in any way retards the progress of their vascular disease. True, some patients who have submitted to one of the various operative procedures tell us they feel better afterwards, but how often we see the blood pressure rising to the pre-operative level and the patient end with heart failure, a cerebral accident or in uremia. Until it is proved that an operation actually increases the blood supply to the kidney, resulting in improvement of the renal function in those cases in which it is impaired, the physician is on sound ground in viewing the whole question of the operative treatment of essential hypertension with skepticism. The writer has observed no patient in whom an operation for essential hypertension has even approached a cure; some have been temporarily relieved of symptoms, others not benefited at all.

Summarizing the management of the patient with essential hypertension we may reiterate, that so far as we know, he deals with the problem of arteriosclerosis and specifically with that of renal arteriosclerosis. Ignorant of the cause and of the factors which influence the progress of the disease, we have no cure and must, therefore, content ourselves to treat symptoms as they appear. We must appreciate that the patient has a chronic and progressive affection and that he will most likely succumb to his vascular disease. The knowledge of these well established facts supplies the foundation upon which all rational treatment must rest.

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PREPAREDNESS

Since we know and have heard of the ravages of war in Continental Europe we have been informed of our unfitness for defense in this country. From these facts we know this to be true. While we may not see the time that it will become necessary to defend this nation or attack another nation, we have all been made to realize the necessity of preparedness. We have heard our President indicate the desirability of equipping ourselves for defense should such defense become necessary. We know full well that our democratic form of government is being criticised, and that as a form of government it may be at stake. Then it behooves us all to think awhile about our place in the program.

We all earnestly desire that our homes, loved ones, friends, and the community in which we live continue in the same even pace of living. None of us would long for the strain and derangement that would come from a military seige. Neither would we desire that our form of living and our form of government be completely abandoned for some form of dictatorship. Therefore, it behooves the medical profession to stand out first in making preparation for some form of defense. Naturally, our thoughts turn to the American Medical Association as the outstanding parent organization of the country with its component state and county societies. The medical personnel of this country should be classified. Every doctor in the United States can take a place in the program for defense. The place should be either in medical service, in military organization, or Veterans Administration, or physician's examination boards to serve such agencies, or in care of the sick and rehabilitation of those not physically qualified, or in medical care of the civilian population, or in schools for education of young men to qualify for such medical service. Every physician in the United States can fit into one of the above classifications and these should be selected carefully and well.

We all know that military medicine is entirely different from civil practice; that it requires special organization; that war wounds are entirely different from civil wounds and the application of many of our forms of treatment in civil life may have no place in military medicine. Still many of the developments of civil medicine, for example, the Orr method of treatment of osteomyelitis, was applied in the recent Spanish Civil War to wounds of the extremities most satisfactorily. Since the present war in Europe is offering problems entirely different from any previous war, the civilian physicians of this country will be called upon to do the major part of the work. The military physicians of the present day will be called upon for administration and organization. But, it seems an opportune time for the medical profession to request and demand that they be informed of the ways of medicine and surgery in the present war, as well as the actual practice and training for limited times in the place they should and would serve in case of a general mobilization. If every doctor in the United States, with some actual training, knew the place and the type of work that he would be expected to do and could have the opportunity to fit himself into that position for a few weeks sometime during the year, we as the medical profession, would have fulfilled the requirements necessary for our co-operation in the preparedness program.

Therefore, looking forward to our parent organization, the American Medical Association, and to its guiding officers, and to the state and local societies, we should develop immediately our medical plan of defense under the guidance of the Surgeon General of the United States Army.

—L. W. L.

HERE AND THERE AT A. M. A. CONVENTION

The all-time peak attendance of 12,864 indicates that the 1940 session was outstanding. Many a visitor to the annual session feels that the exhibits have more pedagogic value than the scientific papers. The special exhibits authorized by the board of trustees were the most valuable to the general practitioner. There were three of these: Fractures, Lame Back, and Fresh Pathology. The one on fractures has been demonstrated for several years and presents the fundamentals of treating the most common fractures, including the manufacture of plaster-of-paris bandages, first aid splinting, treatment of Colles', Pott's, and compression fractures of the vertebrae.

The lame back exhibit, presented for the first time, embraced anatomy, physiology, method of examination, x-ray examination, and physiotherapy. The demonstrators were congenial and would take meticulous pains to answer questions fully. Dr. Zeit, in the anatomy section, is to be commended for demonstrating the large size of the neural intervertebral foramina showing the impossibility in the absence of fracture, of nerve impingement by a so-called "slipped vertebra" that the chiropractors continually preach about.

The exhibit on fresh pathology, likewise presented the first time, drew its material from the autopsy rooms of the neighborhood. The writer saw the following specimens: diabetic gangrene of the foot with occlusion of the dorsalis pedic artery; acute cirrhosis of the liver and cloudy swelling of the kidneys from a case of eclampsia gravidarum; lungs, liver, and spleen showing the typical brilliant pink hue due to the methemoglobin formation from a case of gas suicide; heart showing vegetative endocarditis; a case of dissecting aneurysm of the aorta; and the kidneys and gastrointestinal tract from a case of bichloride of mercury poisoning showing parenchymatous changes and ulcerative ileitis. Large groups visiting these three special exhibits proved widespread interest.

At the opening general meeting the Doctors' Orchestral Society of New York, composed of seventy-five members under the conductorship of Iquatz Waghalter, gave a concert of unexcelled classical music. Dr. Rock Sleyester, president, American Medical Association, presided. Archbishop Frances J. Spellman made a surprise appearance, taking the place of Mgr. Robert F. Keegan, to say the invocation. Governor Lehman, arriving on the platform just as his name was about to be called, extended a warm welcome and made a powerful appeal for national defense. He, claiming a little share of credit for the fight against venereal disease, complimented Surgeon General Parran's Public Health Program. Mayor La Guardia, having flown from Ottawa, extended greetings in an address punctuated with wit. Typical statements: New York City has demonstrated during his administration "that it is possible to separate medicine and politics in our hospitals"—"the medical profession could take a recess for seven years and yet the Government could not catch up with its progress"—"The medical profession has enough horse sense to solve its own economic problems."

James M. Flynn, president, Medical Society of the State of New York composed of 17,000 members, won sustained applause because of brevity. His complete address: "I extend you greetings!"

Walter P. Anderton, president, Medical Society of the County of New York, was also on the group of welcomers. He, a native of New York City, made Southern ears prick up by using the expression "you all."

Leopold Glushak, M.D., sang "Ah, Moon of My Delight" from Omar Khayyam, Liza Lehmen. His encore was "Martha" from MARTHA.

After presentation of the President's Medal, Dr. Nathan B. Van Etten, president-elect, delivered his address on "Better Health for America." He praised the country doctor and the doctor in the small community. One would think he had been reading the MISSISSIPPI DOCTOR! The medal for distinguished services was awarded to bronchoscopist Chevalier Jackson, of Philadelphia. Due to his illness it was received by his son, Dr. Chevalier L. Jackson. Rabbi Louis I. Newman said the benediction.

War talk and plans for defense overshadowed the meeting. In unanimously adopting the mobilization plan of Surgeon General James Carre Magee, of the U. S. Army, the House of Delegates formed the Committee on Preparedness composed of ten members of the House and five officials of the Association. In case of war, doctors will be called by the state and county societies according to the need and according to the individual doctor's fitness, i.e., use the doctor in his own specialty.

In limited space very little comment can be devoted to the scientific papers. However, two will be mentioned to illustrate that the profession is ever advancing. Reed M. Nesbit in "Hypertension Associated with Unilateral Kidney Disease" showed that occlusion of one of the renal arteries, pyelonephritis, and hydronephrosis are causes. These three conditions can be corrected by surgery and point out that recovery can be had from some etiological types of high blood pressure. Rufus Allredge, presenting "Complicated Potts' Fractures Requiring Open Reduction," demonstrated that there is often a rupture of the tibiofibular ligaments with diastasis of the two bones. The conventional position of internal rotation in a plaster-of-paris boot aggravates this deformity. Bolting the two bones together is required, the bolt to be removed when bony union is firm thus preventing ankylosis of the distal tibiofibular articulation.

In every way this meeting was superior to the previous ones and the attendance exceeded by more than 2500 all previous registrations.

—S. A. H.

We are designating this the Monette Issue of The MISSISSIPPI DOCTOR. The portrait of Dr. John W. Monette is the first of Mississippi's medical profession to be placed in the Hall of Fame in the Department of Archives and History. This distinction was worthily bestowed. We are sure that every doctor in our state and in the South feels a distinct pride in the service rendered by this outstanding physician who had the ability to observe and to make practical application of his observations. Dr. Monette had the courage to dare to be different when his convictions showed him the way. His versatility is both interesting and refreshing at this time when it is all but unethical to know anything, to be anything, or to do anything outside of one of the specialties in the profession. In this era medical service is even now beginning to feel the need of the Monette type.

A hundred years ago Dr. Monette was active in the practice. This tribute by the Mississippi Medical Association should be encouraging to those who are pushing upward and onward against the odds, unobserved, unheeded and unpraised. We should know that service in its humblest form must be rewarded someway, somehow, sometime.

We are sure that our association is very grateful to Dr. W. A. Evans, Aberdeen, a citizen of international renown, one of our profession's most versatile men, for bringing Dr. Monette and his pioneer work before us at this time. In so doing he has brought pleasure to our association in the performance of a neglected duty. As our honored practitioner, scientist and historian pioneered in yellow fever, Dr. Evans has pioneered in recognizing and paying proper tribute to outstanding service. President J. P. Wall is due much credit for his co-operative attitude in this matter and for his resourceful action in helping to transform an ideal into a realization. The State Board of Health, under the direction of one of the nation's ablest executive secretaries, played an important part. And in this connection we are sure that the doctors of Mississippi are very grateful to Miss Louise Williams for the fine service she rendered as librarian. We are grateful also to Dr. McCain, director of Archives and History, for his most valuable assistance, for his ideas and his ideals in rendering this tribute to a worthy son. We would not forget the men who were generous enough to advance the money that was needed until the association could have opportunity to contribute it. The doctors appreciate the aid and the co-operation of Judge Brandon. Our appreciation was activated and our determination to greater achievement was reinforced by his informative and inspirational address.

Laurel, we are sure, can well be classed as our state's chief industrial center. Masonite is making it famous around the world. It has a starch factory, makes turpentine, and other products. It still has extensive lumber interests. One of our five state charity hospitals is located there, also a splendid private hospital, owned and operated by one of Mississippi's able and progressive nurses. One of the most up-to-date clinics, in our opinion, in the South is proof that this city is taking on new life. It is set for a steady and a secure growth. The town and county have thirty-three doctors, individually ranking high in training and ability. A few days ago they organized a county unit which we predict will be among the best in the state. Dr. T. Paul Haney, a native of Tishomingo County, is the able county health director of a wonderful all-time unit. The people of Jones are indeed rich in opportunity for medical service right at home.

The Gartly-Ramsay Hospital is calling your attention to a fine service it is now offering the public—modern fever therapy equipment. This hospital has personality. It is home-like. It strives to please. Fever therapy has been used for several years, but its real value in specific diseases has recently become better known. It is said that the Miami Valley Hospital at Dayton, Ohio, has one of the very best departments in this country in fever therapy. The Gartly-Ramsay Hospital has this type of equipment, with a nurse trained in this hospital. She is an artist in the application of heat therapy. The Mid-South will appreciate this first-class service offered by this progressive hospital and its staff.

The ability to observe is what set Dr. John W. Monette apart on his ideas of yellow fever. We have hundreds of practitioners now who have learned much by observation. Their clinical observations should be correlated with the facts determined by laboratory tests, if the profession is to go forward as it should.

We have practitioners in Mississippi whose clinical observations would add much to the richness of medical literature if they were recorded. The MISSISSIPPI DOCTOR would take pleasure in publishing many of them.

The decentralization of the population, industry, and hospitals would add greatly to the strength of a nation in time of war, as well as to insure greater economical security in time of peace.

Macon entertained the June meeting of the Northeast Mississippi Thirteen Counties Medical Society. It was done in first order and fine style. This splendid town has made rapid progress as a medical center the last few years—another fortification for medical security in civil life. The national plan for medical service in time of war should first consider the decentralization of the medical profession and the building up of the small medical centers around the well-planned and well-equipped clinic and small hospital. The doctors look forward to a return to Macon with anticipated pleasure.

In training young men for army service and for practice in civil life it would be well first to place them over on Yellow Rabbit and down on Vinegar Bend for six months with some good sensible practitioner about seventy years old and then intern them for another six months in a twenty-five bed hospital. Preceding this, the teacher in the medical school should spend his summer vacations with the good sensible practitioner out in the country too.

You will read with pleasure and profit the fine article on accidents in the home and their prevention, by Dr. Frank Acree, of Greenville, in the Auxiliary's section.

Read all the papers. You will think they are tip-top. They are, but we have plenty more fine ones for each month.

We are very grateful to our advertisers. Everything else being equal, we will thank you to patronize them.

The entire medical profession will volunteer its services, no doubt, if war makes it necessary.

You will read with interest the account of the A. M. A. in New York by Dr. Stanley Hill.

You will like the abstract of the masterful address of Dr. R. L. Sanders.

Excerpts from the presidential address of Dr. R. L. Sanders, which was presented in Birmingham on the occasion of his recent retirement from the presidency of the Southeastern Surgical Congress:—

Dr. Sanders' subject was "Southern Surgeons: Yesterday, Today and Tomorrow." In his discussion he outlined the history of surgery during the past one hundred twenty-five years, described the present state of affairs, and made some interesting prophesies as to the future of surgical science.

He stated that surgery as practiced today was made possible by three distinct developments: anesthesia, asepsis, and scientific principles of operative technic, all of which were not only begun, but were refined to a high degree within the short space of the last few decades of the nineteenth century. Dr. Sanders paid a tribute to Crawford W. Long, of Georgia, the first surgeon in this country to use an anesthetic drug in the performance of an operation, and pointed out that asepsis was largely developed by Dr. William Stewart Halsted, of Johns Hopkins University, and, further, that Halsted was chiefly instrumental in the refinement of surgical technic as currently practiced.

Of interest also to Southerners were the remarks regarding other outstanding Southern surgeons and their contributions to scientific progress. Among those who were especially mentioned as having distinguished themselves were Ephraim McDowell, of Kentucky, the father of abdominal surgery, and Marion Sims, of Montgomery, Alabama, the father of pelvic surgery. Full homage was accorded to Dr. W. E. B. Davis, of Birmingham, whose statue, erected by the members of the Southern Surgical Association, stands in a public square of that city; to Dr. William Crawford Gorgas, of Tuscaloosa, through whose efforts the scourge of yellow fever was forever removed from the South and from the whole world; to Dr. C. Jeff Miller, of New Orleans, and Dr. William David Haggard, Jr., of Nashville, past presidents of the Southeastern Surgical Congress, both of whom have recently passed away; and to Drs. Howard A. Kelly and J. M. T. Finney, Sr., of Baltimore, and Dr. Rudolph Matas, of New Orleans, all of whom are still living. As was recalled, Dr. Finney is a native of our own state of Mississippi — a fact of which we are justly proud.

In discussing surgery of today, Dr. Sanders spoke of the changing attitude of the profession within recent years regarding the conception of the indications for operative treatment versus medical care. During this era, he stated, "The realm of surgery has come to embrace many diseases which formerly were regarded as wholly within the province of the physician, and, in like manner, diseases which formerly were eradicated by the surgeon's knife are now treated effectually by the internist." He predicted that, in the future, further adjustments may be expected along these lines.

Among the recent innovations in surgery were listed nerve resections, which are now being performed for the relief of muscle spasm and pain in certain disorders; resections of the pituitary and portions of the adrenal glands for physical changes brought about by overactivity of these structures; and an operation whereby patients with coronary disease may be given a new lease on life.

Dr. Sanders called attention to the fact that faulty diet is being proved the cause of an increasing number of ills, and recommended sane habits of eating as a means of overcoming these diseases. In this connection he stated that further studies of the role of vitamins in disease may reveal that many disturbances are influenced by lack of a proper amount of vitamins in the diet, and may point the way to their cure by the administration of supplementary vitamin elements.

It was Dr. Sanders' belief that the cancer problem might ultimately be solved through prevention. He suggested that, by the creation of a cancer-consciousness in the public mind, meticulous recording of the personal and familial histories of every patient, more careful studies of pathologic specimens, and the correlation of all these data, a weapon might be found whereby the public could be forearmed and could thus take steps to guard against the disease.

Surgical progress of the future was described as depending fundamentally upon the co-operative efforts of the biochemist, physiologist, bacteriologist, neurologist, psychiatrist, internist, surgeon, and all the other specialists. By this means, the causes of disease would be better understood, more curative methods of treatment devised, and eventually measures of prevention could be developed. Such a program, it was pointed out, entails a vast amount of experimental research in the ancillary sciences and calls for more exact history taking, more careful and more thorough physical examinations, and keener observations on the part of physicians and surgeons. It also necessitates a broad grasp of medicine as a whole, as well as a thoughtful study of each patient from the humanistic viewpoint.

Finally, Dr. Sanders stated that the ultimate object of all medicine and surgery is preventive. He prophesied that, by preventive methods, within the next few generations human life would be prolonged well beyond the present average span of sixty-five years, and expressed the conviction that Southern surgeons of the future, as of the past and present, would be leaders in this campaign for the conquest of disease.

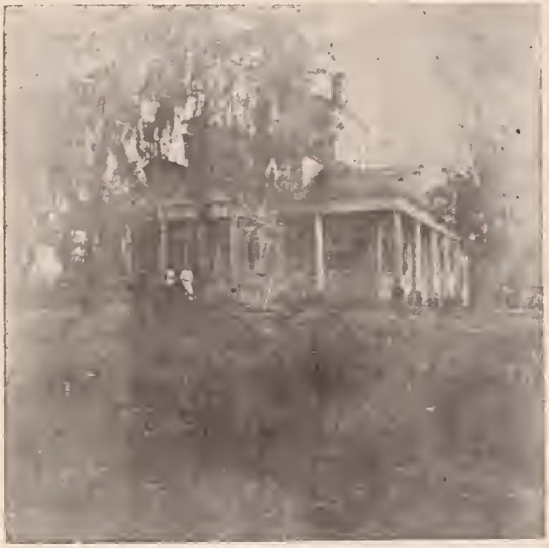
Some philosopher has said that truth (right) is mighty and will prevail. In Scripture it is stated that "ye shall know the truth and the truth shall make you free." But medicine has fallen upon evil days when camouflage, deception and commercialism have so hidden truth and ethics until things that have always been and should always be first, have been relegated to the junk pile and trash heap. That there is a crisis confronting medicine there can be no doubt, just as there is a crisis confronting the government, business and religion. This writer has realized this fact for some years and, in his feeble way, has been trying to call attention to the impending disaster. While wonderful advances have been and are being made along scientific lines, the proper distribution of good medical service has been overlooked. The time has come when it behooves us, not only to "stop, look and listen," but to think and analyze. What and where are the weak spots in our system? In my thinking the point of greatest weakness is in the teaching and training that our young entrants are being given. It is good and well, proper and right, that they should be selected from a group of men and women who have been well prepared from an academical viewpoint. It is good that they should be thoroughly taught and grounded in the underlying principles of the science of medicine. But it is pitiful and deplorable that they are taught so little about people—sick people if you will. After long years of arduous study and hard work they go out wholly unprepared for the practice of medicine—for the delivery of good medical service. They seem to be, and are, incapable and helpless outside of a hospital and its equipment and environment. For this they are in no way to blame—they are to be pitied rather than blamed: for their teaching has been inadequate and along false lines. This is not strange when we remember that their teachers are, for the most part, wholetime teachers who have done no actual private bedside practice. All this being true (and it is true), none of these fine young men can be induced to locate in a section remote from a hospital. I know of two communities where a radius of forty miles or more is without a doctor. In the center of one of these is a fine little town that is over a hundred years old, one that is surrounded by a splendid farming territory that is thickly populated by a prosperous, cultured people. This community is well supplied with churches and has a magnificent consolidated high school—is supplied with TVA power and is a delightful place in which to live and rear a family. Yet no doctor can be induced to locate there, notwithstanding the fact that a ready-made practice with an assured living anxiously awaits the coming of a competent young (or old) doctor. This territory once supported eight or more doctors. Within a few months three young doctors have located in towns on the periphery of this radius where there is no demand for more or better doctors — this, in spite of the fact that harder work and less money may be expected. One is made to wonder if Dr. Van Etten, in his president's address at the recent session of the A. M. A., did not furnish the explanation of this phenomenal situation when he stated that "only competent physicians can succeed in country practice—ignorance and chicanery are quickly detected where the physician is conspicuous because he stands alone. The only safe place for incompetents is in cities, where they may hide in the crowds." How sad it is that these brilliant young men are driven to class themselves as incompetents because of their inadequate and faulty training. It is marvelous to me that a man of Dr. Van Etten's background and environment should be able to grasp the rural situation as it is. I earnestly insist that all doctors read this wonderful address as well as the one delivered by Dr. Van Etten before the House of Delegates at the recent New York meeting of the A. M. A. I hope that our editor-in-chief may see fit to give space to both these great addresses, in the near future. In such case, may I urge every reader of the journal to read and consider them well. We are faced by critical and perilous times and we are in a state of woeful unpreparedness. We should—we must—begin to get ready for the crash that seems to be inevitable.

—G. S. B.

John Wesley Monette, M.D.

(With this issue of the Mississippi Doctor, dedicated to Dr. John Monette, first physician to be admitted to the Mississippi Hall of Fame, we reproduce the speeches made on the occasion of the presentation of his portrait by the Mississippi State Medical Association to the Department of Archives and History, on the assembly floor at the annual meeting of the association, May 14, Jackson, Mississippi.)

SWEET AUBURN



Built by Dr. John Wesley Monette, between 1830-1840, and occupied by him as his home until he died in 1851.

This photograph is of the residence as originally constructed by Dr. Monette, and called "Sweet Auburn." The house is located near Washington (six miles from Natchez), in Adams County, Mississippi.

After the property passed out of the possession of Dr. Monette's descendants, the new owners (Mr. and Mrs. Ratcliff) remodeled the building,—removing the front portico, and also removing the third story (both shown in the photo) and remodeling the roof-plan. This explains the present altered appearance the residence presents to visitors.

PRESENTATION

W. A. Evans, Chairman

Ladies and Gentlemen of the Mississippi Medical Association:

We assemble for the purpose of presenting a portrait of Dr. John Wesley Monette of Washington (Natchez) to the Department of Archives and History, to be placed by the Department in the Mississippi Hall of Fame. When President Wall learned that the trustees of the Department wished to place a portrait of Dr. Monette in that Hall, he decided to offer one as a contribution from the State Medical Association. The offer was made and it was accepted. The president secured the services of Mrs. Hull and had the portrait painted by her. On yesterday, the Council of the Society approved the action of President Wall and voted the funds required.

As a part of the program for honoring the name of Dr. Monette, the Department of Archives and History and the Library of the State Department of Health have arranged a Monette exhibition as a part of your scientific exhibit.

In it, you will find the principal contributions by Dr. Monette to the medical periodicals of the period loaned by the Library of the Surgeon General of the United States Army; a photostatic reproduction of John W. Monette's graduation thesis presented to the Department of Archives and History by Transylvania College, two copies of Monette's History of the Mississippi Valley, Dr. Monette's diploma bestowed by Transylvania, Dr. Monette's license to practice medicine in Mississippi, certificates of membership in various societies, and the Monette family Bible, all loaned by Judge Brandon.

We are appreciative of the participation in this occasion by the State Department of Archives and History, the State Department of Health, Transylvania College, the Surgeon General's Library, United States Army, and by Judge Brandon and family.

Dr. John W. Monette was noted as a historian, naturalist, a poet and literary man, a lecturer, all aside from his fame as a practitioner of medicine, a master of public health and a research student and writer on preventive medicine.

Today, we honor him especially as a physician, in the broad meaning of the term.

But we must not forget his contributions to other fields. That we may not be guilty of this omission, I will cite briefly some of his non-medical achievements as I have found them recorded in the publications of the Mississippi Historical Society. Volume VII, 1904, entitled "Floods of the Mississippi River" and "Progress of Navigation and Commerce on the

Dr. W. A. Evans, Aberdeen, Miss., left, was chairman of the presentation program at which the Monette portrait was presented to the Mississippi Hall of Fame by the Mississippi State Medical Association. Dr. W. D. McCain, right, Jackson, Miss., director of the Department of Archives and History, accepted the portrait for the state.

Waters of the Mississippi River and Great Lakes 1700 to 1846," by John W. Monette, and, Volume IX, 1906, same publication, "Life and Literary Services of John W. Monette," by Franklin L. Riley.

Among his contributions to science other than medicine were "Complexion and form of the Human Species," "Essay on the Improbability of Spontaneous Production of Animals and Plants," and "The Limited Nature of Human Research." In this field, Riley says he ante-dated by nearly half a century the scientific discoveries and writings of Darwin, Spencer, Tyndall and Devties.

In the field of literature, he wrote poems such as those on "Friendship," and "Ode to July 4, 1820," and an essay on "Empericism" in addition to lectures and addresses.

In the historical field, he wrote two great histories. "The History of the Mississippi Valley," published in two volumes in 1846, copies of which are in the Monette Exhibit, and the large unpublished, six-volume "Physical Geography and Geology of the Mississippi Valley," unpublished but to be found in manuscript form in the Spencer Library, University of Michigan, Ann Arbor.

In 1845, the Natchez Free Trader announced that Dr. Monette had nearly finished the writing of a monumental work on the Mississippi Valley. It was to be published in two parts. Part One in two volumes, was entitled "Discovery and Settlement of the Mississippi Valley." (This is the present "History of the Mississippi Valley," two volumes.)

Part Two is entitled "Physical Geography of the Valley of the Mississippi," two volumes.

This last eventually took the form of a six-volume work and is the manuscript which is now in the Spencer Library at Ann Arbor.

Riley uses eighteen pages of the publications of the Mississippi Historical Society, Vol. IX, to list the subjects covered in these six books. The index, of eighteen pages, we condense to the following:

Book 1. Preface, introduction, and four chapters dealing with the river.

Book II. Twelve chapters, dealing mostly with the upper river and its tributaries.

Book III. Six chapters, dealing mostly with the Delta, the lower river and its bayous and levees.

Book IV. Five chapters, dealing mostly with climate, meteorology, seasons and flora.

Book V. Four chapters, dealing principally with fauna and mineralogy.

Book VI. Two chapters, dealing principally with Indian mounds and Indian tribes.

Our Monette was one of a type of medical mind which is generally termed "encyclopedic."

Another term used to describe this type is "myriad-minded." Many physicians are regarded as "encyclopedic" or "myriad-minded." Perhaps Monette was the best of all that group. There were many of them in the old days. There are still a few of them.

The world has never fully understood these mental giants and never have they been properly honored.

* * * *

We are here this afternoon to give recognition to the fact that Mississippi appreciates the services of one who deserves well the recognition of the state.

We had a very able practitioner of medicine in this state a century and a half ago, who had the courage to take issue with Benjamin Rush, the medical autocrat of his day. He had one idea of what should be done to control yellow fever and Rush had another. There was scarcely any one in America who dared to take issue with Rush at that time, but Dr. Monette had made observations which led him to believe that Rush was wrong. He set up his guns and as the result yellow fever was eradicated.

Our first feature of the program will be a presentation of some observations and some interesting information relative to Dr. John Wesley Monette, to be given by Dr. Monette's grandson, also a grandson of an outstanding governor of Mississippi. This gentleman was brought up in the Monette atmosphere, perhaps lived under it in the old home which stands in the vicinity of Natchez. I am going to introduce the presiding officer of the section which has just adjourned—Dr. Benoist, who will introduce the speaker of the afternoon.

Ladies and gentlemen, I present Dr. Benoist, of Natchez.

DR. E. E. BENOIST: Long before I realized that my friend, Judge Brandon, was a grandson of Dr. Monette, I had seen in my father's library a copy of Dr. Monette's "History of the Mississippi Valley." This Dr. Monette, whom Dr. Evans has just portrayed, was not only a very good physician and a renowned physician, but he was also a renowned literary man.

By the paved modern road from Natchez to Washington, a considerably less devious route than the beautiful old Washington road over which we have driven in years gone, off this road to the east and within a quarter of a mile, is the old house known as Sweet Auburn. In the other direction, north, toward the railroad town of Selma, on the hill is the old plantation home known as the Manor House of Selma Plantation. In the post-Revolutionary days, just about the time the war was closing, there was a Brandon who came from a little town in Long Island known as Palmetto Island, next settled in South Carolina and, as so many South Carolinians did, migrated to Mississippi. This Brandon built the house which is now standing at Selma Plantation. He, the grandfather of the present Judge Brandon, died in 1823. His son was the Brandon who became governor of Mississippi Province, as it was known at that time.

The Monette family were of French-Huguenot extraction and lived at the Sweet Auburn plantation. Judge Brandon was born at Sweet Auburn in 1861. He finished school at the University of Mississippi, getting his A.B. in 1882, his M.A. in 1884 at the age of 20 years; he was a member of the old Natchez school. It gives me a great deal of pleasure to present to you, Judge Gerard Brandon, of Natchez.

JUDGE GERARD BRANDON: Mr. President and Members of the Mississippi State Medical Association:

You have honored me as a grandson of Dr. John Wesley Monette with an invitation to present in behalf of your most worthy and distinguished association to the Mississippi Hall of Fame a life-sized portrait of Dr. Monette, to be there preserved in recognition of his eminence in your noble profession, and as a lasting memorial of his work and achievement as a physician, and also as a scholar and historian.

The presentation of a portrait to be placed in a hall of fame,—to be gazed on by the curious as well as those seeking information, would be an idle gesture unless there be also available data and information whereby curiosity can be satisfied and knowledge of the original of the portrait obtained. It is therefore proper to premise this biographical sketch with a statement of the geneological background of Dr. Monette and of his antecedents in America.

As the name itself indicates, the original Monette emigrants to America were French Huguenots. The name in French was originally spelled Monet and Monnett; in American, "Monet," "Monnett," and "Monett." Dr. Monette's father and grandfather spelled it "Monett." Dr. John Wesley Monette himself added the present final "e" in writing his name, which spelling is followed by his descendants. From

McKenzie's "Colonial Families of the United States," it appears that Pierre Monet, a Protestant, was one of the victims of the Massacre on St. Bartholomew's Day in August, 1572. Two of his descendants, Pierre Monet and Isaac Monet, emigrated to America prior to 1707,—the latter settling in Calvert County, Maryland. William Monett and Margret Monett were the parents of Samuel Monett; Samuel Monett and Mary Monett were the parents of John Wesley Monette.

The following entries are copied from an old Monette family Bible in my possession (printed in 1813):—

"Samuel Monett, son of William and Margret Monett, was born February ye 7th, 1778."

"Mary Monett, wife of the above was born June 23rd. 1777, Madison County, Virginia."

"Sam'l Monett and Mary Wayland were married on September 22nd., 1801. Tuesday."

"Samuel Monett Sen'r departed this life August ye 22nd., 1823, at Darien, Georgia, in the forty-sixth year of his age."

"Mary Monett, consort of the above, departed this life March the 28th., 1851, at her son-in-law's in Woodford Co., Ky."

"John Wesley Monett, son of Sam'l and Mary Monett, was born April 5th., 1803, on Tuesday morning half after six o'clock. Madison County, Virginia."

John Wesley Monett and Cornelia Jane Newman were married on Wednesday, December 10th., 1828, by Rev. Benjamin M. Drake."

"John W. Monett died March 1st., 1851, on his plantation in Louisiana."

Samuel Monett, the father of John Wesley Monett(e), was himself a man of education and learning, a prominent physician, and a leading member and official of the Methodist Episcopal Church. His devotion to that church and his admiration for its founder is evidenced by the fact that he called his eldest son "John Wesley." Shortly after 1803, Dr. Samuel Monett, with his family, removed from Staunton. Va., to Chillicothe, O., where several of his children were born. Later he moved to the then flourishing town of Washington, near Natchez, in Adams County, Mississippi. He died when his son, John Wesley Monette, was only twenty years of age.

In his early life John Wesley Monette gave evidence of the thirst for knowledge and mental vigor which distinguished him all through his life. His library, which was still wholly intact when I was a young man, was well selected and extensive, and besides medical books, included a well assorted number of originals and translations of Latin and Greek classics, and also many historical and biographical works. This library bore witness to the scope and varied character of his studies and investigations. When the old Monette home passed out of the possession of his descendants in 1882, the greater part of his library and manuscripts were sent to his son, the late Dr. George N. Monette, of New Orleans. I am informed by the latter's son that prior to his death his father had disposed of most of them,—excepting the manuscript of an uncompleted work, the "Physical Geography of the Mississippi Valley."

Dr. Monette's preliminary studies in medicine were under the supervision of his father, Dr. Samuel Monett, in his practice in Washington. After his father's death he completed his medical course at Transylvania University, Lexington, Kentucky, receiving his diploma as an M.D. on March 21, 1825. I have this diploma in my possession. After his graduation he returned to Washington, Miss., and there practiced his profession with marked success and pursued his studies and research and literary work until his death on March 1, 1851.

Of the children born to Dr. John Wesley Monette and his wife Cornelia Jane Newman, only four lived beyond childhood, viz., Anna Virginia Monette, who became the wife of Dr. James C. Brandon, of Washington, Miss., Alexander Covington Monette, late of Tallulah, Louisiana, George Newman Monette, M.D., late of New Orleans, La., and Miss Marie Louise Monette, late of New Orleans, La.

Soon after his marriage in 1828, Dr. Monette acquired a tract of some fifty acres of land in the suburbs of the town of Washington on which he erected a handsome and commodious brick-and-frame family residence which he called "Sweet Auburn," and where he resided until his death. The bricks were made on the property. I can remember as a boy the remains of the old brick-kiln and the pond made by excavating the earth for making bricks. I have been told by my mother that the columns, window casings, doors and door frames, and other mill-work in the house were milled in Cincinnati, and brought thence via the Mississippi River route,—there being then no mills for such work in this vicinity. The main residence was unique in plan and design. The first story, of brick, contained six rooms,—three on either side of a broad hall which extended through the building. Above the brick first story was a frame half-story, with four dormer windows,—three of which lighted one large room in the centre, the rest of the floor space being in attic store-rooms, and in the rear the fourth dormer and staircase-hall. This second story, or its frame-work, rested on and extended on three sides some four or five feet over and beyond the brick walls, and was also supported by a colonnade of Doric columns which extended around three sides of the building. In front was a wide porch or portico, likewise supported by columns. The hall was entered by double-doors, with lights on either side and a fan-shaped window over the doors to light the hall. The most striking feature of the building was the third story, which consisted of one large room, about twenty-four feet square, with a continuous row of glass windows protected by latticed blinds on all four sides. I have a photograph of the building as it was when built. After it passed out of the hands of the family, the new owner removed the portico and the large room on the third floor, and extended the roof as a "hip-roof" in its place,—thus altering the entire appearance of the building. Formerly the building was surrounded by a well-kept and capacious park, enclosing a smaller yard closer to the residence. The approach from the public road was through a gravelled drive-way with a row of large oaks on either side,—now about all destroyed. Near the residence, and on a line with its front, were two brick offices, one used by Dr. Monette as his medical and consulting office, the other and larger one for his library and study. In the rear of the dwelling were flower and vegetable gardens, and behind the gardens, the family graveyard.

As already stated, when Dr. Monette located for the practice of his profession in the town of Washington, it was still relatively a place of some importance, and was the literary centre of the new state of Mississippi. It had recently been the territorial capital, and the U. S. Land Office was located there. Under a charter granted by the territorial legislature in 1802, Jefferson College was located there,—and after one hundred and thirty-eight years is still in successful operation as a junior military college. Among the residents of the town or neighborhood, besides Dr. Monette, the scientist, physician and historian, there were B. L. C. Wailes, Mississippi's pioneer geologist, J. M. Ingraham, the author of the "Pillar of Fire" and other well known works, Affleck, a large nurseryman and a Mississippi pioneer in horticulture and floriculture, and J. H. F. Claiborne, the author of "Mississippi as a Territory and State." Among these Dr. Monette was a recognized leader. His interest in education is evidenced by the fact that for a number of years before his death he was a trustee and president of the Board of Trustees of Jefferson College.

Dr. Monette was a member of the Lexington Medical Society of Transylvania University, Lexington, Ky. In 1844 he was elected a corresponding member of the National Institute for the Promotion of Science, of Washington, D. C.

In the period of the settlement and development of the Southern States along the Gulf Coast, following the Revolutionary War, the Louisiana Purchase, and the acquisition of the Floridas, their worst scourge and most dreaded disease was yellow fever,—also called African fever, because of its origin and importation in African slave ships bringing to our seaports their cargoes of filth and diseased humanity. At frequent intervals it decimated New Orleans and other cities along the Gulf Coast and the Mississippi River. Natchez was a frequent sufferer,—and people from the city seeking to escape from the disease would carry and spread it to Washington and the adjacent country. As a student under and assisting his father in the epidemic of 1823, Dr. Monette first came in contact with and observed and studied the disease. In 1825, about two years after his graduation and entering upon the practice of medicine, a dreadful epidemic broke out in Natchez and in Washington. The physicians who were most successful and gained the greatest reputation in their treatment of the disease were Dr. Monette of Washington and Dr. Cartwright of Natchez. (In passing it may be of interest to note that the two were friends and co-workers. In appreciation of Dr. Cartwright's services in a cholera epidemic the citizens of Natchez presented him with a magnificent golden loving-cup which is now in the possession of his descendants, Mrs. Mary Walworth Whitaker, of Baton Rouge, and Mrs. Alice Walworth Graham, of New Orleans).

To Dr. Monette belongs the distinction not only of continuing the study and successful treatment of yellow fever till his death, but also by his writings of contributing much to the medical profession of the history, treatment and control of this dreadful disease. He devoted his most intensive efforts to determining the origin, the control, and the prevention of the disease. He boldly took issue with as eminent an authority as Dr. Benjamin Rush, of Philadelphia, who proclaimed the doctrine of "the unity of fevers" and contended that yellow fever, typhoid, malaria and other fevers were one and the same. I take the liberty of quoting from an article by a learned and distinguished member of your association, Dr. W. A. Evans, which was published in the Lexington (Ky.) HERALD of March 2, 1930:

"Dr. Rush said that yellow fever was not brought to Philadelphia by men, mosquitoes, or anything else, that quarantine was unnecessary, and that this particular epidemic was caused by the fermentation of some hides in a warehouse . . . Young Monette, like David of old, challenged the mighty Goliath. What is more, he overthrew him and his doctrine. He proved that yellow fever was different from malaria and typhoid, and that the doctrine of the unity of fevers was wrong, that it was borne by men, that it was imported into places. Being of a practical turn, he showed just how a community could protect itself. He set the world right and doing so paved the way for a procession of discoveries that has not yet ended and will not for years to come."

Whilst it was reserved for another day and generation and for other scientists and physicians to demonstrate the fact that yellow fever is not infectious, and not contagious, but is transmitted by the bite of a certain species of mosquito which has previously bitten one sick with the fever,—yet the same later research confirms the contention of Dr. Monette that yellow fever does not originate in the United States, and that its introduction can be prevented by rigid quarantine against the entrance of individuals sick with the fever, or if entrance is obtained that it can be controlled and eradicated by the right and prompt isolation of all patients and by proper screening to prevent them from being bitten by the particular species of mosquito that transmits the germ.

So convinced was Dr. Monette of the correctness of his theory of the external origin of yellow fever that just before and at the time of his death he was negotiating with national health authorities for a national and rigid quarantine of vessels from tropical ports which might possibly have cases of yellow fever aboard. That yellow fever can, as he contended, be kept out of the United States by efficient quarantine has been abundantly established since. How many thousands of lives might have been saved had he lived and been able to carry out his plans and purposes!

Dr. Monette sought not only to give the medical profession the benefit of his theory and practice and of his investigation and research, but also sought in a general way to inform and educate the minds of other students and of laymen. He was therefore a frequent writer concerning diseases, and especially yellow fever, and a frequent contributor to medical journals and other publications. His paper on "The Epidemic Fevers of Natchez" was published in the SOUTHWESTERN JOURNAL and copies furnished the Selectmen of Natchez. His "Observations on the Epidemic Yellow Fevers of Natchez and the Southwest from 1817 to 1839, was published in book form. In 1841 yellow fever was epidemic in New Orleans and in Vicksburg but by rigid quarantine was kept out of Natchez. The "Mississippi Free Trader" of Oct. 21, 1841, gave Dr. Monette credit for the result. In 1842-1843, he published in the Louisville WESTERN JOURNAL OF MEDICINE AND SURGERY a series of articles dealing with yellow fever and quarantine. Dr. Monette was also a frequent contributor to other medical and literary periodicals. (The foregoing is condensed from a biographical sketch of Dr. Monette and his services by Dr. Franklin L. Riley in Vol. IX of PUBLICATIONS OF MISSISSIPPI HISTORICAL SOCIETY, to which I give credit).

Dr. Monette's chief claim to distinction as a student and historian rests upon his "Monette's Valley of the Mississippi," published in two volumes by Harper & Brothers in 1846. The comprehensiveness and value of this work is recognized today, as evidenced by the price public libraries and private collectors are willing to pay for it.

Dr. Monette's greatest literary undertaking was his "Physical Geography of the Mississippi Valley." He died before the work was quite completed and ready for publication. The scope and character of this great work is indicated by the index to the contents of the manuscript printed in Dr. Riley's sketch above mentioned.

The versatility of Dr. Monette is further evidenced by the fact that he was that which students, professional and literary men seldom are,—a successful business man. In addition to his residence "Sweet Auburn" in Washington, he was the owner of two plantations, "Islington" and "Morgan Field" (with their complement of slaves) near the present town of Tallulah, in Madison Parish, Louisiana. It was on a visit to his plantations that he was stricken with his brief and fatal illness. His mortal remains, as do those of his wife and their youngest daughter, rest in the family graveyard on "Sweet Auburn." The monument to his memory bears this simple inscription:

Sacred
To the Memory of
JOHN WESLEY MONETTE, M.D.
Born April 5, 1803
Died March 1, 1851.

In all departments and branches of human progress, it is the pioneer who lays the foundations upon which those who come after may build. Without such foundations well laid there can be no progress. For that reason succeeding generations have honored and will continue to honor and perpetuate the memory of pioneer patriots, statesmen, jurists, inventors, scientists, physicians, and others. This is right and proper, in order that men and women of the present may not forget those of the past, and that those of the future looking backwards may receive an inspiration to do and to accomplish something worth while to perpetuate their names, and for the benefit of generations to come.

With this, gentlemen, in behalf of the Mississippi State Medical Association, I present to the Mississippi Hall of Fame the portrait of John Wesley Monette, M.D., a pioneer in medical progress and achievement in our state over a hundred years ago, and one who is worthy of the honor given the memory of other distinguished citizens of our state.

* * * * *

DR. WALL: In behalf of the Mississippi Medical Association and speaking as the president thereof, I present to the Mississippi Department of Archives and History that it may be hung in the Mississippi Hall of Fame, this portrait of Dr. John Wesley Monette, of Washington, Miss., physician, trailblazer in the control of yellow fever, and historian.

DR. MCCAIN (Jackson): Thank you, Dr. Wall. It was decided that too much attention has been given in the state to politicians and military men, when farmers and doctors and business men and clergymen are as highly deserving of the recognition of this state and of this nation; so from that, with the help of these other fine people this has been made possible.

It seems rather peculiar to me this afternoon that we men and women should be gathered here on a matter of medicine, science, history and literature, while the rest of the world has gone mad, while our brothers across the waters are destroying records and literature and art. We have to carry on, and I am very grateful on behalf of the Department for the fine things that these three gentlemen have done with regard to the portrait of Dr. Monette.

Judge Brandon in his very fine paper mentioned the fact that some effort had been made to get this manuscript that was left by Dr. Monette. For more than a year I have attempted to get that manuscript back to Mississippi from the University of Michigan at Ann bor. It sold three or four years ago for $200.00. I have been willing to pay $200.00 to get it back, but my good friend, Dr. Adams, the head of the library, wants $500.00.

I am glad, Judge Brandon, that you mentioned the connection of Dr. Monette with Jefferson College. That College now has a small collection of articles and manuscripts that is one of the finest in the country and I hope the trustees never permit those fine books and manuscripts to go outside the boundaries of this state.

Now the thing I know Dr. Monette most for is his two-volume "History of the Mississippi Valley," published by Harper Brothers in 1846, and a second edition in 1848,—first published 94 years ago by a man of medicine. That two-volume set is still the standard history of the Mississippi Valley, so recognized by our leading historians. Incidentally, Judge Brandon, you mentioned J. H. Ingram who lived in that section of the state at one time. He, at one time, lived in Monroe County. I happen to have in my possession a set of Dr. Monette's History that was inscribed by Dr. Monette, "To Rev. J. H. Ingram," a set that I appreciate very highly. I want to express appreciation to Drs. Evans, Wall, Judge Brandon and Miss Williams of the Library of the State Board of Health.

Dr. Wall, on behalf of the Board of Trustees of the Department of Archives and History of the State of Mississippi, I take great pleasure in accepting for the Hall of Fame of that department this fine portrait of Dr. John Wesley Monette.

JOHN W. MONETTE, M.D.
1803-1851

A special exhibit was conducted at the 1940 meeting of the Mississippi State Medical Association, on the occasion of a portrait presentation of Dr. John W. Monette for inclusion in Mississippi's Hall of Fame in the State Department of Archives and History. This is the first physician whose portrait has been accorded a place in the Hall of Fame. In times past those selected for such honor have been chiefly statesmen, soldiers, and individuals contributing to the political life of the state. It is significant that the board of trustees of the department have decided that others contributing to the welfare of the state, including physicians, ministers, farmers, etc., should be equally represented by the state's hall of fame.

The exhibit was arranged by the Medical Library of the State Board of Health jointly with the State Department of Archives and History. The following works by Dr. Monette were on display:

His "Inaugural Thesis on the Endemial Bilious Fever as It Generally Seems in the Vicinity of Natchez," Jan. 15, 1825. (Photostatic reproduction supplied through the courtesy of Transylvania University, Lexington, Ky.).

"Observances on the Epidemic Yellow Fever of Natchez and of the Southwest." Reprint from West. J. Med. & Surg. V. 4-5, 1841-42*.

"The Epidemic Yellow Fever of Natchez"—an essay read before the Jefferson College and Washington Lyceum, Dec. 2, 1837*.

"An Account of the Epidemic Yellow Fever That Occurred in Washington, Miss., in the Autumn of 1825"—West. M. & Phys. J., V. 1: 73-85, 1827-28*.

"Rejoinder to Dr. Lewis' **Critical Notice**"—New Orl. Med. J. 1: pt. 2: 178-180, 1844-45. (Also on display in connection with this article was: Lewis, P. H., "Thoughts on Yellow Fever," being a brief critical notice of the following recent works, viz: "Observations on the Epidemic Yellow Fever of the Southwest by J. W. Monette"—New Orl. Med. J. 1, pt. 2: 31-44, 1844-45)*.

"A Remarkable Case of Hysteria, Associated with Symptoms of Lyssa, With Remarks"—West. Med. & Phys. J. 1: 665-668, 1828.*

"History of the Mississippi Valley," 2 vols., Harper & Bros., 1846.

Dr. Monette has been described as one of the most prolific writers on scientific and historical subjects which Mississippi has ever produced. His fame in medicine resulted not alone from his literary contributions but mainly from his successful demonstration of yellow fever control by quarantine methods. Although his advocation of quarantine was scoffed at and criticized by the great medical autocrats of his time, Dr. Benjamin Rush and others, he proved the fallacy of their theory that yellow fever was caused by putrefaction, and thereby facilitated the later great work of Gorgas, Reed, Carroll, Lazear and Agramonte, in finally bringing the disease under complete control. It is a fitting tribute that Dr. Monette's portrait be placed in Mississippi's Hall of Fame in recognition of his many contributions to the state's welfare.

The two lower shelves of the exhibit pictured were given over to a special display of books and journals in the State Board of Health Medical Library in order to remind many of the physicians of the efforts being made to develop a first class collection of medical literature available for their use, and soliciting their active participation and support.

DR. JOHN WESLEY MONETTE'S QUARANTINE AGAINST YELLOW FEVER

Until about one hundred years ago (1841) the prevailing idea as to the nature of and cause of yellow fever was that it was: ". . . a high grade of bilious fever, that was produced locally by local causes, such as a peculiar miasma or exhalation from certain putrefactive processes . . . and is confined to districts, where it originated and that it possesses no communicable properties."[1]

There were two schools of thought concerning this pestilence.

Dr. Benjamin Rush, the eminent man-of-medicine of Philadelphia and a distinguished teacher of the art, held: (1) It was due to a fermentation of organic matter. (2) It originated locally. (3) Preventive measures, such as quarantine, were useless in checking it.

Against this great man, who brought all of the authority of his teaching position to sustain his theories, was the observation of a country doctor, who, though well trained and grounded in medicine at Transylvania University, spent his medical life in the small town of Washington, Miss., and this man was Dr. John Wesley Monette, who stated and eventually proved that yellow fever (1) was not due to local fermentation and putrefaction; (2) that it came from outside the body; (3)that it was spread from community to community by travel and commerce, that its occurrence was in direct proportion to such travel and commerce; (4) that timely and efficient quarantine could prevent its incidence in the quarantined area.

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*Made available for display through the courtesy of the Army Medical Library, Washington, D. C.

To understand the spirit that animated Dr. Monette in his studies, no better idea can be obtained than to quote his own words:

"It is a privilege and a duty, which every medical man owes his profession, to give the result of his observation and experience, when it can have a tendency to promote the science of medicine or the welfare of man."[1]

In papers, prompted by clear vision, scholarly substance, sustained by keen observation and incontrovertible logic, he did maintain for the first time that the etiology of yellow fever was exogenous.

He stated: "I consider it infectious or capable of being propagated from one place or person to another by means of 'materies morbi'."

Against this, Dr. Rush held: "Yellow fever is not contagious in its simple state, and spreads exclusively by means of exhalation from putrid matters, which are diffused in the air."

Dr. Monette lived in a small town of approximately 250 people, at least half of whom were negroes. It was to this little town of Washington, that the citizens of Natchez, Miss., would refugee when visitations of yellow fever made their tenure of their homes too dangerous; and though Washington was only six miles from Natchez, the town would remain free of yellow fever till the people of Natchez came to Washington, the merchants even bringing their wares, and starting up business in the new location.

Dr. Monette observed that it usually took from 10 to 12 days for a case of yellow fever to develop in Washington after the refugees had come from a stricken area; he further observed that following a severe windstorm, the new cases fell off rather precipitously—the first carrying out the idea of the incubation period of the fever and the second that the winds did blow away many of the mosquitoes, thus leaving fewer hosts to infect the citizenry, although Dr. Monette felt like the winds blew away the "effluvia."

Dr. Monette had also made the interesting observation that ships coming from Cuba and Central American ports, having few days to several weeks in transit, had time for the goods in the cargoes of the ships to become impregnated with foul air, which foul air liberated in the community where the ship called, did disseminate the fever, which was breathed in or entered the system of the patient in some other way.

With such thoughts in his mind, he did, in 1841, say: "It is now time to arrive nearer the goal of truth, and to point out where truth and error meet; to lay aside the trammels of authority and the prejudices of educators, that we may view things clearly, patiently and with proper discrimination."

In 1841, when yellow fever was taking its accustomed toll of the Southern States, he established a "timely," "strict" and "judicious" quarantine for Natchez, and thus prevented this city from a visitation of the pestilence.

Naturally he did not know of the germ-theory of disease, as announced by Louis Pasteur in 1866; and though he did believe in the "fomites" theory of the disease, which is now definitely excluded by the Yellow Fever Commission of the United States Public Health Service in its epochal studies in 1900; and though he did not know of Carlos Finley's idea of the stegomia fasciata being the host and transmitting agent of this disease as promulgated in 1881, still he did take and prove the thesis that the disease did come from without the body, and because of his establishing the exogenous origin of the malady was able to establish efficient quarantine and thus prevent the spread of the infection to new area.

Because of the studies inaugurated by this great man, Ross, of London, in his malaria studies; Reed, Carroll, Lazear and Agramonte in Havana; Gorgas in the Panama Canal area have shown definitely that yellow fever is a transmissible disease, that it can be prevented from spreading to other areas.

"Proper quarantine, outlined by Monette and carried out by Holt in New Orleans in 1880, was all that we needed in the United States to protect us from yellow fever, though it was not all that was needed in Cuba and

Central American countries, but methods devised by Gorgas in the Canal Zone, Reed, Carroll and Lazear in Cuba solved this problem, but a Holt quarantine, based upon Monette's discoveries supplies all we needed."[2]

"When it came to complete control of the disease, something more was needed and this was supplied by the work of Americans in South America and Africa on jungle fever, but for the protection of our country the work of Monette properly applied was all that we needed."[2]

REFERENCES

1. From various papers of Dr. Monette.
2. From personal communication from Dr. W. A. Evans, Aberdeen, Miss.

News and Comments

DR. E. C. BOYD

Dr. E. C. Boyd, of Hatley, Miss., as he stands in his office door. This is a splendid little town surrounded by one of the very best farming sections in northeast Mississippi. Dr. Boyd is one of the ablest practitioners in this state. He is able in intellect and he is a hard student. He keeps abreast of medical progress. He is holding the lines in a big rural practice in an efficient and heroic manner. He is rendering a fine service and deserves as much credit as a soldier on the battlefield.

STATEMENT

Acting Governor Dennis Murphree issued a proclamation for the observance of "Know Your State Park Week" June 9-15. The Mississippi Federation of Women's Clubs sponsored this. The purpose, of course, was to acquaint Mississippians with our state parks and their recreational facilities. We received an invitation from Mrs. H. J. Wilson, of Hazlehurst, to represent the Mississippi State Medical Association on this tour. The tour included eight parks that are now open, namely: LeRoy Percy State Park, Holmes County Park, Spring Lake Street Park, Tishomingo State Park, Tombigbee State Park, Legion State Park, Clarkco State Park, Percy Quin State Park.

We received this invitation just as we were ready to leave for New York to attend the American Medical Association. We immediately appointed Dr. W. C. Walker, of Houlka, Mississippi, to represent the state association on this tour, or part of it at least. He deeply regrets, and so do we, that his health was not such that it would permit him to make the tour. All who are acquainted with Dr. Walker knows how well and how happily he would have performed this mission for the state association had he been able to do so.

On the part of the Mississippi State Medical Association we wish to express our appreciation to the Mississippi Federation of Women's Clubs and their interest in this educational mission and we wish to express to them our very deep regret that we were unable to join them on this tour

W. H. Anderson, President
Mississippi State Medical Association

NEW ASSISTANT

Dr. Lawrence W. Long, our state editor, has secured an assistant, Dr. J. Gordon Dees. He is a graduate of the University of Mississippi and the University of Tennessee. He was born in Philadelphia, Mississippi, September 26, 1908, where he was educated through the tenth grade and thence to the Newton County High School at Decatur, Mississippi. From there he went to the University of Mississippi where he took his pre-medical work and first two years of medicine. He graduated in medicine from the University of Tennessee. He is licensed to practice in Mississippi and Michigan. He served an eighteen months' rotating interneship, six months assistant residency in medicine, assigned to the out-patient department and Isolation Hospital; and two years of pathology as assistant resident and resident, respectively, at the Memphis General Hospital and University of Tennessee. Following this he spent one year in the University of Michigan as assistant resident in surgery with Dr. Fred Coller; one year as assistant resident in surgery at the John Gaston Hospital in the Surgical Department at the University of Tennessee with J. Lucius McGehee, professor of surgery, and he has just completed his residency in surgery at this same institution.

We welcome Dr. Dees to our state and to Jackson, the cross roads of the Mid-South, and its fastest growing city.

DR. CHARLES CLIFTON BUCHANAN

Dr. C. C. Buchanan died in the Methodist Hospital, Hattiesburg, Miss., on January 22, 1940, after a long illness following an automobile accident in 1937. He was born at Old Williamsburg, Covington County, Mississippi, on August 22, 1887. He received his medical education at Tulane University where he graduated in 1909. He came to Hattiesburg in 1921 where he specialized in eye, ear, nose and throat work. He was a World War veteran, thirty-second degree Mason and Shriner, past-president of his local Kiwanis Club and the South Mississippi Medical Society, a member of Louisiana and Mississippi Ophthalmological and Otolaryngological Society, past exalted ruler of the Elks. He was a member of the First Presbyterian Church.

He was buried in the Highland Park Cemetery on January 24, 1940. Dr. Buchanan had a host of friends in the medical profession, especially in Mississippi. His jovial good fellowship will be greatly missed by all of his associates.

The state association feels keenly the loss of Dr. Buchanan and this journal offers its sincere sympathy to the ones who will miss him most.

THANKS, DR. RUNYON

Dear Dr. Anderson:

First, I am writing to know how you are, and to enclose a dollar for my subscription to your most excellent journal. If nothing else than in the last issue Dr. Bryan's "A Criticism" is worth the price. He said a lot in that short space and it was of real value to your readers and I wish to commend him most highly.

For generations physicians have been constantly in the arena fighting for the welfare of man. Many lost their lives in the fight—at times victims of the diseases they sought to conquer. After generations of effort and self-denial, achieving many a brilliant success, and with the health of the people secure and improved as never in the history of the world—the United States Government must needs step in to muddy the water—chill ambition and in my opinion, hazard the future health and welfare of the nation.

Yours very truly,
E. J. RUNYON.

Dr. Runyon is a past-president of the Mid-South. He is very liberally educated and is strong in medical integrity.—Ed.

COMING MEETING

The eighteenth annual scientific and clinical session of the American Congress of Physical Therapy will be held September 2, 3, 4, 5 and 6, 1940, at the Hotel Statler, Cleveland, Ohio. For information concerning the seminar and preliminary program of the convention proper, address American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

OPENS OFFICES

Having completed residences in gynecology and obstetrics and female urology at Charity Hospital of Louisiana at New Orleans, Woodard Davis Beacham, M.D., wishes to announce that he will engage in the private practice of those specialties beginning July 1, 1940. He will be located at 1110 Pere Marquette Building, New Orleans.

FOR NAVAL EXAMINATION

Examinations for doctors of medicine desiring to enter the Medical Corps of the United States Navy will be held on August 19, 1940, at the following U. S. Naval Hospitals: Chelsea, Mass.; Brooklyn, N. Y.; Portsmouth, Va.; Pensacola, Fla.; San Diego, Cal.; Washington, D. C.; Newport, R. I.; Philadelphia, Pa.; Charleston, S. C.; Great Lakes, Ill.; Mare Island, Cal.; Puget Sound, Bromerton, Washington.

JOINS SANITARIUM STAFF

The Vicksburg Sanitarium and the Street Clinic take pleasure in announcing the association of Dr. Donald S. Hall, who is in charge of the Eye, Ear, Nose and Throat Department and Bronchoscopy.

BOOK REVIEWS

Biochemistry of Disease, by Meyer Bodansky, Ph.D., Director of John Sealy Memorial Laboratory, and Professor of Pathological Chemistry, University of Texas School of Medicine and Oscar Bodansky, Ph.D., M. D., Lecturer in Biochemistry, Graduate Division, Brooklyn College. Published by the MacMillan Company, 60 Fifth Avenue, New York, Price $8.00.

This book was written to supply the physician with a systematic presentation of the biochemistry of diseases, arranged according to clinical entities. Since the physician's interest in biochemistry is usually limited to its relation to particular clinical situations such arrangements of the biochemical material makes it pertinent, available and utilizable.

Each chapter deals with the diseases of the specific organ under consideration. Infectious diseases and the malignancies are considered in connection with the diseases of the specific organs. General presentation of carbohydrate, protein, fat, mineral metabolism,etc., are not considered except as they seem relevant and applicable to the various conditions. Descriptions of laboratory methods are not included. The aid which biochemistry offers in the practice of clinical medicine is being recognized more and more, and this book especially helps the physician integrate his clinical experience with the fundamental biochemical processes underlying disease.

The second edition of Diseases of the Nose and the Throat, by Drs. Charles J. Imperatori and Herman J. Burman will be found of great value to both specialist and practitioner. Dr. Imperatori is Professor of Otolaryngology at the New York Polyclinic Medical School and Dr. Burman is Adjunct Professor in the same specialty at the Polyclinic Medical School and Hospital.

This book follows very closely the course given the matriculants at the New York Postgraduate Medical School of Columbia University. The book is largely designed to help the practitioner diagnose and treat conditions met with daily in disease of the nose and throat. Its arrangement makes it easy as a reference book. The symptoms, diagnosis and treatment are first considered and then the pathology and cause placed at the end of each subject. The first edition of this most valuable book is only three years old. In the second edition the relationship of allergy to rhinology in general and to polyposis in particular has been stressed. A discussion of dermoid cysts, telangiectasia, injuries, the cytology of nasal secretions and fractures of the nasal sinuses have been added. Many additions have augmented the diseases of the oral cavity including a more extensive discussion of acute septic sore throat, tuberculosis of the larynx, and more detailed care for laryngectomized patients.

This most practical book, helpful to both specialist and practitioner, is published by J. B. Lippincott Company, Philadelphia, at the modest price of seven dollars.

Diabetes, by Edward L. Bortz, M.D., Assoc. Prof, of Medicine, Univ. of Pennsylvania and Ass't Editor, The Cyclopedia of Medicine. Second edition, Price, $2.50. Philadelphia, F. A. Davis Co., 1940.

This volume represents a well-rounded work on diabetes, destined for usefulness to the physician, the student and, most of all, to the patient. For the successful management and control of diabetes, the author stresses education of the patient, whose co-operation is essential. This principle has a broader significance, in that the laity must also have an intelligent understanding of the nature of diabetes if the diabetic is to live a normal span, and if the growing army of diabetics are to be safe-guarded.

After clear discussions of causes and symptoms of diabetes, diet and diet therapy, obesity, exercise and Protamine Insulinate are given careful attention. For the help of the patient, a glossary simplifies terms, a simple test for sugar enables him to watch his diet, and diet cards and tables provide accurate estimates of food values.

The material contained in this book is of general information and handles the problem of diabetes excellently. Inexpensive, easy to grasp, direct in information and method, this little book should be in great demand.

Mississippi State Medical Association

Organized 1867 **Next Meeting: May, 1941, Biloxi**

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Program:
Surgery—V. B. Philpot, Houston
Hygiene and Public Health—Paul T. Haney, Laurel
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Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
Central Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	G. Y. Gillespie, Greenwood	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
ssa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	J. W. Lipscomb, Columbus	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
outh Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.
Eye—S. S. McNair, Jackson.
Ear, Nose and Throat—Alston Callahan, Vicksburg.
Obstetrics and Gynecology—J. W. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Pathology and Clinical Pathology—John C. Henthorne, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Public Health—Felix J. Underwood, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.
Discussion and comments are invited.

EYE

RETINITIS PIGMENTOSA, Etiologic and Clinical Implications Based on Twenty-One Cases, Robert C. Moehlig and Ralph H. Pino, Arch. of Ophthalmology, Vol. 23, No. 6, June, 1940, p. 1257.

The authors have carefully studied twenty-one cases of retinitis pigmentosa and have brought out some factors which are fairly convincing that this disease is caused by some dysfunction of the pars intermedia of the pituitary gland. They noticed that the average age of patients was 32.2 years. There were eleven males and ten females. All twenty-one cases showed a high arched palate. All patients except one, aged 8, had dark hair. Three patients were offspring of consanguineous parents. Most of the patients were taller than average. Fifteen of the patients had family history of migraine and eleven patients gave a familial history of ocular disturbances and five had familial history of retinitis pigmentosa. Four patients had hirsutism of the body.

The fact that 100% of the cases showed a very high arched palate is very significant because the embryological development of the hard palate is responsible for the high arching of the palate. Furthermore, it is generally accepted that the pituitary gland develops from the ectoderm in the roof of the mouth. Thus this gland may be involved in abnormal development of the latter structure.

COMMENT: There has been and still is a raging controversy concerning etiology of retinitis pigmentosa. These authors have a fairly convincing argument that it is due to probably a hyperactive pituitary gland. Of course, many of their strong points are based on a theory which is often as strongly opposed by some as advocated by others.

—S. S. McN.

PATHOLOGY

RELATIONS BETWEEN SPECIFIC IMMUNITY, ALLERGY, AND ANAPHYLAXIS IN TUBERCULOSIS, Corper, Cohn, and Damerow, Am. J. Clin. Path. 10:361-379 (June) 1940.

The research was undertaken in an attempt to clarify confused conceptions carried over from old literature. Some of this confusion resulted from unwarranted conclusions drawn from poor experimentation.

It was found that very small amounts of protein free filtrate of tubercle bacilli were capable of sensitizing guinea pigs to anaphylactic shock. The sensitization reached a maximum at about 2 months and persisted for over 18 months. Guinea pigs became sensitized to avirulent tubercle bacilli six months after injection but the reaction was not anaphylactic in nature unless the injection was given near the 2-month period of maximum sensitization. Even then the reaction on internal organs was different from that produced by the true anaphylactic reaction. Anaphylactic reaction similar to that produced by sensitization to filtrates was also produced by sensitization of the guinea pigs to refined tuberculo-protein. It is evident that animals sensitized to avirulent bacilli die from a generalized tuberculin reaction, and that the tuberculin reaction is essentially different from the anaphylactic reaction. This conclusion is supported by the fact that animals sensitized to bacilli give a positive tuberculin reaction and respond to provocative doses of filtrate given either intravenously or subcutaneously. On the other hand, those animals that have true anaphylactic sensitization respond only to provocative doses given intravenously.

It is evident that these experiments prove that there is a marked difference between anaphylaxis and the tuberculin reaction.

Further immunologic experiments tended to show that the positive tuberculin reaction per se did not protect against infection with tuberculosis bacilli. The authors also presented a method of desensitizing guinea pigs after infection with avirulent tubercle bacilli.

COMMENT: Clawson's experiments on the subjects of immunity, allergy, etc., are more ingenious and more clear-cut than those of the current article. Clawson clearly showed that the various "humoral antibodies" precipitins, opsonins, agglutinins, etc., were entirely independent of the tuberculin reaction. He called the antibody reaction "immunity," and the tuberculin reaction "allergy." Clawson further showed that neither immunity nor allergy offered experimental animals protection against infection by virulent tuberculosis bacilli. The current article is valuable in that it still further separates anaphylaxis from the tuberculin reaction, and calls attention to the fact that animals infected by avirulent bacilli can be desensitized to the tuberculin reaction. Although the authors disclaim any value at present to desensitization as a means of treating tuberculosis, and conclude that animals so desensitized have lost a considerable degree of the protection that follows a primary infection, the results of their experiments do not warrant their conclusions.

We have now anaphylaxis, allergy, immunity, and protection against infection as four separate and distinct phenomena that can be produced by the tubercle bacillus and its fractions.

TUBERCLE-BACILLEMIA IN OLD PEOPLE, Arnstein, Am. J. Clin. Path. 10:414-422 (June) 1940.

Numerous special considerations have been given to tuberculosis in elderly humans and in an attempt to explore this field further, Dr. Arnstein reports from London results of research begun in Vienna. The research deals with blood cultures on 107 cases, 11 of which are controls. In the group, there were cases of active tuberculosis, doubtful active tuberculosis and inactive tuberculosis. There were three blood cultures positive for tuberculosis bacilli in the active group and five positives in the inactive group. Four of the positive cultures in patients with chronic rheumatoid polyarthritis.

The author calls attention to literature that records evidence of living tubercle bacilli in calcified and fibrotic lymph nodes which are in close anatomic relationship to blood vessels. He suggests that bacillemia may develop from direct extension of these lymphatic lesions into blood vessels or from extension through the lymph stream into the inferior vena cava.

COMMENT: The weakest point of this research is not its untimely interruption so that the number of cases is inadequate, but that 50 per cent of the cases of tubercle bacillemia were not cases of active tuberculosis but were cases of atrophic arthritis. This fact throws the whole research into the same category as Lowenstein's work which is for the most part discredited in this country. Other research accomplished in Europe, such as the premise that living tubercle bacilli exist in calcified and fibrotic lymph nodes, is accepted as a fact by the author, but such premises are not supported by research from this country. The chief value to the article is the bibliography which gives references to works by good European authorities as well as to others whose wide variety of views would enable one to obtain support from the literature on almost any conceivable premise relating to the subject of tuberculosis.

—J. C. H.

PUBLIC HEALTH

(Abstracted by Dr. H. C. Ricks).

SYPHILIS CASE FINDING IN INDUSTRY, Albert E. Russell, Journal of the A. M. A., Vol. 114, pp. 1321-1324, April 6, 1940.

Case finding in syphilis and tuberculosis are parallel in their importance to industry. Their greatest incidence is found in the low income group and among the uneducated. For these reasons the problem of eradication and control is all the more difficult.

The decline of the death rate from tuberculosis has been in direct proportion to the intensity of anti-tuberculosis work. That syphilis can also be controlled is demonstrated by the excellent example of the effects of concentrated effort to eradicate the menace of the venereal diseases by the Scandinavian countries.

Both syphilis and tuberculosis are infectious diseases and therefore, it is important to find the early infectious case, make proper diagnosis and isolate or quarantine until the infectious period is past. In the case of syphilis, the quarantine period can be made short by treatment. This has been designated as "chemical quarantine." After the quarantine period the cases of both tuberculosis and syphilis must be kept under treatment until they are past the period where relapses and serious complications might result in early death.

In 1935 there were in proportion to population more than a hundred times as many new cases of syphilis in the United States as occurred in Sweden. This demonstrates two things; first, syphilis can be controlled and second, persons with infectious syphilis in this country are not being found, isolated and prevented from spreading the disease to others.

The foregoing deals with infectious cases and the spread of syphilis. There is another group which is larger and presents serious problems. This group includes the cases of syphilis which have passed the infectious stage. It is from their ranks that the recruits are derived for the tragic late manifestations of this disease. It is estimated that there are more than 40,000 deaths annually from cardiovascular syphilis which is more than half as many as there are from tuberculosis. One of every ten persons admitted to the insane hospitals has dementia paralytica and their care costs over $31,000,000 annually.

Before the advent of the National Campaign for the control of syphilis there were more than 60,000 syphilitic babies born each year in the United States, one-third of whom if untreated, will become either totally or partially blind. "Syphilis," Surgeon General Parran says, "is now a major hazard to health and efficiency."

If each industry will take responsibility for knowing its own problem, for seeing that treatment is available, for continuing to give employment to those who seek cure, the cost to industry will be paid promptly in terms of reduced sickness losses and more efficient labor.

To discharge persons with syphilis thereby denying them the right of income, places a great burden on the worker, the community and the nation. The worker with syphilis needs an income to pay for the necessary treatment and he also needs the friendly advice and council of the plant physician. Without these requisites he does not receive the necessary measures to cure his disease and in time, together with members of his family, he will most likely become a public charge. Industry will pay for such cases of syphilis in added taxes.

The industrial syphilis control program is an integral part of the whole National Campaign. This is emphasized by the fact that there are more than 15,000,000 people employed in the mining, mechanical and metal trades. A syphilis program reaching these workers and members of their families will include about half the population of the country.

The co-operative program for syphilis control in industry recommended by the Surgeon General of the United States Public Health Service is as follows:

1. Routine blood tests should be made on all employees at time of re-examination.
2. Routine blood tests should be made on all applicants for employment.
3. Patients with syphilis, if noninfectious, should be kept in employment and also accepted for work provided they agree to take the necessary treatment for syphilis. Those refusing treatment must be referred to the local health departments.
4. All persons with syphilis found by blood testing should be referred to the family physician for confirmation of the diagnosis and for treatment of the disease. If the worker is unable to pay for this service, he should be referred to clinics where diagnosis and treatment are available.
5. Strict confidence must be maintained between the plant physician and the worker regarding his condition.
6. Cases should be followed by the plant physician and his staff to assure that the patient continues treatment and that adequate treatment is being received. If facilities are available, health departments may assist in the follow-up of cases.
7. An educational program should be developed which will teach the employees the facts about venereal diseases, how they are contracted, how they are spread and how they may be cured. The educational program should include information concerning prophylaxis.

The importance of treatment in the prevention and spread of syphilis cannot be overestimated, it has such deep social and economic significance. Fortunately, treatment soon renders a patient noninfectious.

The treatment of syphilis is necessarily long and expensive, and when a patient feels good it is difficult to have him return to the physician weekly for about a year and a half. Yet it is known that unless he completes treatment he will not be sure of escaping the late manifestations of the disease, such as heart and nervous system involvement. With the female patient there is the likelihood of pregnancies and the birth of syphilitic babies or abortions, and all this is an addition to the possibility of the same late manifestations as in the male.

Intensive programs of case holding co-ordinated with educational measures will tend to decrease the spread of infection and reduce the injurious consequences to the individual and the costs to society from general neglect of the disease. Case holding is vital to the public health and the program for the control of the disease in these early days immediately following infection.

The services of the follow-up nurses of the state and local health departments are available to private physicians in a number of places.

A study of 6,807 patients with early syphilis showed that 4,077, or 59.9 per cent, received less than ten treatments, 1,641, or 24.1 per cent, received less than twenty treatments and 749, or 11.0 per cent, less than thirty and that 1.4 per cent received forty or more treatments.

The elimination of syphilis from industrial workers will prolong their lives and make them better producers and a happier group of people.

State Board of Health

Felix J. Underwood, M.D.

DIAGNOSTIC FIELD CLINICS FOR TUBERCULOSIS

During the past 12 months' period ending June 30, 1940, 65 diagnostic chest clinics were held in counties throughout the state, according to a report from Dr. Wm. D. Hickerson, Supervisor of the Field Clinics. These clinics were mostly of 5 days' duration but some were of 2 and 3 days' duration. Forty-eight of them were conducted in counties having full-time health departments and 17 were conducted in counties having part-time health services. A total of 3,947 suspicious cases and contacts were given complete chest examination, including x-ray. Of this number 2,840 were white patients and 1,107 were Negroes. Tuberculosis among Negroes, of course, presents a greater problem in Mississippi than it does among white people. This fact has been stressed throughout the state and it is regretted that a larger number of Negroes have not been referred for examination.

It has been urged that children under 12 years not be referred for examination unless they present definite symptoms, as pulmonary tuberculosis is comparatively rare in this group. Much stress has been made on the importance of examinations in the age group which produces most of the tuberculosis. Of this total group of patients examined, only a small percentage were children. Approximately 15 per cent of those seen presented a definite clinical tuberculosis of the lungs, either active or arrested.

This 12 months' period completes 6 year of diagnostic field clinics in Mississippi. Sin the institution of these clinics, the deman for them has steadily increased. At the prese time, both field units are always definitel scheduled for 2 or 3 months in advance. Tim and space do not permit a detailed accou of the apparent good that these clinics hav rendered. There has been a definitely change mental attitude on the part of people regar ing tuberculosis. There has been a much larg number of cases diagnosed in the minim stage of the disease. There is now more promp and accurate reporting by physicians. Ma more examinations of the sputum for tuberc bacilli are being made. All in all, it is fe that the diagnostic chest clinics in this sta are now having a very definite effect on th mortality rate. An additional field unit woul make it more nearly possible to keep abreast of requests for clinics and to return to various sections more frequently.

* * * *

VENEREAL DISEASE CLINIC PROGRAM

The Venereal Disease Clinic program has undergone considerable expansion since January 1, 1940. A report from Dr. A. L. Gray, Director of the Division of Preventable Diseases shows that in 9 new counties 17 weekly treatment clinics have been established. These counties are: Tate, Panola, Noxubee, Lowndes, Holmes, Marion, Copiah, Monroe and Madison. There have also been established 9 new clinics in counties where clinics were operated prior to this period. There are now in operation 156 clinics each week, embracing 39 counties. In the clinics approximately 17,000 cases are being treated weekly and more than 200 private physicians are rendering services.

The best evidence of how vigorously Mississippi is pushing its program of venereal disease control is revealed in the statistics of the State Hygienic Laboratory, showing a tremendous increase in specimens examined. For the single month of May, 1940, there were 21,105 specimens examined. For the single month of May, 1940, there were 21,105 specimens examined as compared with 38,597 for the entire 1925-1927 biennium.

* * * *

With the approach of the summer months comes an extra caution to watch carefully for any symptoms of typhoid fever, as this is the season when the disease is most prevalent. The number of cases reported for May, 1940, was approximately the same as for May, 1939; however, according to the natural cycle of typhoid incidence in Mississippi, the state is scheduled for an increase. During recent years, increases have been noted in the state at 5- to 7-year intervals.

* * * *

Two more full-time county health departments started operations July 1, in which 3 counties are affected. Smith and Jasper counties will have a joint unit with offices at Raleigh and Bay Springs, and will be under the direction of Dr. W. F. Bell, formerly of Rutherford, Tennessee. Tishomingo County will have a full-time department headed by Dr. W. R. Armstrong, formerly of Houston, Miss. This brings the total number of counties with full-time services up to 47, enabling 65 per cent of the state's population to have the protection such services afford.

* * * *

A new building is being constructed for the new full-time health department which was established in Noxubee County April 1. A special WPA allotment is helping to make the new quarters possible. Already the work in the county is well under way, with scheduled meetings and clinics being held and sanitary inspections of markets, soda fountains, etc., having been carried out. Dr. B. O. Garner is director of the Noxubee department.

* * * *

The increase in quality of health service rendered in the state during the last several years may be attributed in some measure to the continuous program of personnel improvement and advancement of standards which the State Board of Health has sponsored, and which has been made possible through the financial support of such agencies as the Commonwealth Fund and the United States Public Health Service. Employees who have just returned from a period of special study include the following:

Dr. Paul T. Haney, former Director of the Pike County Health Department, who was granted scholarship at Johns Hopkins University School of Medicine and Public Health. He returned to duty during May and has been appointed Director of the Jones County Health Department succeeding Dr. A. R. Perry, resigned.

Dr. R. H. DeJarnette, who was granted a fellowship at the same school, and who has returned to duty as Director of the Alcorn County Health Department.

Dr. C. R. Gillespie, who has completed a year's fellowship at this school, and is now on duty as Director of the Sunflower County Health Department.

Misses Opal Regan and O'Conner George, Advisory Public Health Nurses, who have returned from a year's study in public health at Columbia University.

Misses Ruth Smith and Dorothy Strahan, Laboratory Technicians, who have completed a year's study at Johns Hopkins University School of Medicine and Public Health. Misses Smith and Strahan are employed in the State Hygienic Laboratory.

Miss Eleanor Hassell, Supervisor of Health Education, who has just completed a year's study at Yale University School of Medicine under Dr. Ira V. Hiscock, Professor of Public Health.

* * * *

Dr. Felix J. Underwood, State Health Officer, along with Dr. Harvey Garrison, Sr., represented the State Medical Association at the New York Convention of the American Medical Association. Dr. Underwood also attended a meeting of the Board of Scientific Directors of the Rockefeller Foundation, of which he is a member, and met with the Commonwealth Fund Board while in New York.

Attention is called to the very worth while educational work to prevent cancer, which is being carried on by the Women's Field Army of the American Society for the Control of Cancer. Working in close co-operation with the medical profession and health officials, 23,000 women volunteered their active service in this program last year. This represents about 52 divisions, embracing 46 states, with 625 organized groups, among them the federated clubs and others, taking part. Since much early cancer is curable if properly treated, this educational effort to teach people to recognize initial symptoms and place themselves under prompt medical attention, has a far reaching public health significance and deserves the whole-hearted support of every group, especially physicians and health officials. More than 6500 cancer deaths were recorded in Mississippi during the 5-year period, 1935-1939, of which it is estimated that about 500 might have been prevented had these individuals known and understood the importance of applying the knowledge now available for protection against the disease. The high toll of life among men and women in the most useful period of their lives, which this disease has been exacting, justifies a supreme effort for banishing the specter of ignorance which up until now has made cancer one of the world's worst scourges.

* * * *

The International Health Division of the Rockefeller Foundation is sending a number of individuals from foreign countries to the Mississippi State Board of Health for a period of field training and observation during the summer months. Dr. H. Muench of the Rockefeller Foundation gives the following information regarding these men who are coming on fellowships:

"Mr. Tarik Bilginer, engineer, will probably be attached to the Division of Sanitary Engineering of the Ministry of Hygiene of Turkey on his return. His interests are quite general but he has expressed a particular desire to see anything possible in the line of drainage of large areas.

"Mr. Luis Mantilla, engineer, is the first Fellow in Sanitary Engineering from Peru and on his return will probably be called on to help in the organization of a department from the ground up. He may also have some responsibilities in teaching.

"Dr. Victor Ocampo is a health officer in Mexico and will return to a largely rural program. He will, I think, be particularly interested in maternal and child health programs and especially in the field of usefulness of the public health nurse. (Dr. Ocampo will be assigned to the Leflore County Health Department, July 1-14; to the Washington County Health Department, July 15-28; and to the central offices, July 29-August 3).

"Dr. K. W. John Lieu was granted a fellowship by Mr. Gunn from China Program funds. He is on the staff of the Municipal Health Department in Shanghai and as such is interested primarily in city health work. . . Some of his work will be rural and for this reason we should like to have him see some of our outstanding rural health work before he returns home. (Dr. Lieu will be assigned to Coahoma County, July 1-14, and to the central offices, July 15-21).

"Dr. A. L. Briceno Rossi was the Director of Health of Venezuela and it is quite probable that he will again occupy a post of considerable responsibility. He has a good deal of experience in public health and we are breaking up his program somewhat in order to let him see a wide variety of our better organizations. . ." (Dr. Briceno Rossi, together with Dr. Porfirio Irazabal, also of Venezuela, will be at the Lauderdale County Health Department July 22-23 and in the central offices July 25-27).

Each year Mississippi is host to a number of officials who come for the sole purpose of studying its health program. It is hoped that this summer's visitors will find their time well spent and that they will gain valuable help for their own programs through close study and observation of procedures of the Mississippi State Board of Health.

* * * *

Other individuals studying in the state are Mr. Edgar A. Bering, Jr., who will be at the Tunica County Health Department June 1-July 15 and in the central offices July 15-July 31; and Mr. Charles D. Armstrong, who will be at the Leflore County Health Department June 1-July 15 and in the central offices July 15-July 31. These young men are students from Harvard University School of Medicine, who have been granted fellowships by the Rockefeller Foundation for the purpose of gaining a better understanding of the practices of public health with a view to better equipping themselves for the profession should they choose to enter it.

LICENSES GRANTED

Permanent licenses to practice medicine in Mississippi were issued by the State Board of Health on June 28, 1940, to the following physicians:

BY EXAMINATION: Dr. Robert H. Atkinson, Water Valley; Dr. Revis A. Brannon, Jr., Utica; Dr. Neil Callahan, Vicksburg; Dr. Walter W. Crawford, Tylertown; Dr. Elvis W. Crocker, Bruce; Dr. Luther P. Crull, Greenwood; Dr. Arthur A. Derrick, Jr., Goodman; D. Charles J. Edwards, Jr., Vicksburg; Dr. Thomas V. Finch, McComb; Dr. Ramon B. Flowers, Kilmichael; Dr. Brent Fox, Bogue Chitto; Dr. Paul M. Goldfarb, Vicksburg; Dr. Virgil S. Gully, DeKalb; Dr. Robert W. Harper, Shreveport, La.; Dr. William C. Hays, Jr., Sherman; Dr. Robert L. Holley, Jr., Oxford; Dr. Orval Nathan Hooker, Rolling Fork; Dr. Isaac C. Knox, Jr., Vicksburg; Dr. William L. Jaquith, Natchez; Dr. Felix B. Long, Jr., Starkville; Dr. James B. Looper, University; Dr. Chester A. McLarty, Oxford; Dr. Lee Davidson McLean, Blaine; Dr. Frank C. Massengill, Brookhaven; Dr. Leroy H. Mayfield, Blue Mountain; Dr. Marcus E. Morrison, Corinth; Dr. Gilcin F. Meadors, Jr., Jackson; Dr. David M. Pennebaker, Cotton Plant; Dr. Glen Thomas Pearson, Macon; Dr. William H. Rogers, Collins; Dr. James Lee Royals, Meridian; Dr. Thomas Luhm Royce, Isola; Dr. Thomas Griffin Ross, Jackson; Dr. Thomas J. Safley, Jr., Drew; Dr. James Luther Spencer, Jr., Carrollton; Dr. Stephen L. Stigler, Birmingham, Ala.; Dr. James H. Swartzfager, Jr., Laurel; Dr. Jetson P. Tatum, Meridian; Dr. Clyde Ater Watkins, Aberdeen; Dr. William B. Wiener, Canton; Dr. Charles W. Westerfield, Columbia; Dr. John Howard Woodbridge, Tchula.

BY RECIPROCITY: Dr. James M. Campbell, Forest; Dr. Emanuel Cohen, Pace; Dr. Bertha M. Davis-Clark, Jackson; Dr. F. E. DePriest, Batesville; Dr. John W. Dorsey, Jackson; Dr. Byron O. Garner, Macon; Dr. George E. Gibbons, Jackson; Dr. Gilliam S. Hicks, Natchez; Dr. Madelene M. Donnelly, Columbus; Dr. Walter H. Head, Greenville; Dr. Ernest J. Holder, Meridian; Dr. James D. Hutchins, Crystal Springs; Dr. Henry M. Kalvin, Jackson; Dr. Raymond F. Mayer, Indianola; Dr. Edmund A. Melvin, Gulfport; Dr. Robert M. Moore, University; Dr. Alexander T. Nadeau, Jr., Pascagoula; Dr. Howard A. Nelson, Greenwood; Dr. Samuel B. Platt, Jr., Columbus; Dr. Joseph H. Saunders, Laurel; Dr. Rufus K. Simpson, Macon; Dr. Murphy M. Sims, Oxford; Dr. Roy F. Spaulding, Arcola; Dr. Allen H. Tigert, Booneville; Dr. James H. White, Columbus.

TWO OSTEOPATHS: Archie D. Boucher, D.O., Hattiesburg, and Inez V. Boucher, D.O., Hattiesburg.

OFFICERS AND COMMITTEES OF THE MISSISSIPPI STATE HOSPITAL ASS'N.

1940

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MEMBERSHIP: E. C. Parker, M.D., Gulfport, Chairman; E. LeRoy Wilkins, M.D., Clarksdale, Vice-Chairman; George E. Adkins, M.D., Jackson Infirmary, Jackson.

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Mental Hospitals: J. S. Hickman, M.D., East Mississippi State Hospital, Meridian, Chairman; Frank Donaldson, M.D., Mississippi State Hospital, Whitfield, Vice-Chairman; W. Jeff Anderson, M.D., Anderson Infirmary, Meridian; R. L. Rhymes, M.D., Meridian.

Public and Community Relations: Henry Boswell, M.D., Sanatorium, Chairman; L. B. Morris, M.D., Macon Hospital, Macon, Vice-Chairman; C. E. Catchings, M.D., Woodville; F. P. Ivy, M.D., Ivy Hospital, West Point; K. T. Klein, M.D., Meridian Sanitarium, Meridian; J. L. Levy, M.D., Clarksdale; Cummings H. McCall, M.D., Gulfport.

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Nurses and Nursing: A. Street, M.D., Vicksburg, Chairman; Mrs. Karena Gilfoy, R.N., Mississippi Baptist Hospital, Jackson, Vice-Chairman; L. W. Brock, M.D., McComb Infirmary, McComb; W. W. Cox, M.D., Gulfport; C. B. McCown, M.D., Aberdeen; J. E. Powell, M.D., Charleston; Miss W. B. Rankin, R.N., Columbia Clinic Hospital, Columbia; F. M. Sandifer, M.D., Greenwood Colored Hospital, Greenwood.

Publication: A. M. McCarthy, M.D., George C. Hixon Memorial Hospital, Electric Mills, Chairman; W. H. Brandon, M.D., Clarksdale, Vice-Chairman; Leon S. Lippincott, M.D., Vicksburg Sanitarium, Vicksburg.

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National Hospital Day: Mrs. J. Oridge, R.N., Holmes County Community Hospital, Lexington, Chairman; Thomas Wolford, M.D., Columbus Hospital, Columbus, Vice-Chairman; W. W. Hall, M.D., Shelby; D. G. Rafferty, M.D., Pass Christian; Miss Mary H. Trigg, R. N., Greenwood Leflore Hospital, Greenwood; G. G. Townsend, M.D., Scott County Hospital, Morton; G. W. Wallace, M.D., Biloxi; Harvey M. Williams, M.D., Aberdeen.

Hospital Records: L. L. Beall, M.D., City Hospital, Cleveland, Chairman; Mrs. G. E. Craft, R.N., King's Daughters and Sons Hospital, Bay St. Louis, Vice-Chairman; A. V. Beacham, M.D., Beacham Memorial Hospital, Magnolia; Archibald C. Hewes, M.D., Gulfport; David R. Minter, M.D., Rosedale; F. G. Riley, M.D., Riley's Hospital, Meridian.

Hospital Accounting: John W. Gill, Vicksburg Sanitarium, Vicksburg, Chairman; Miss Helen Branham, R.N., North Mississippi Community, Tupelo, Vice-Chairman; E. S. Bramlett, M.D., Bramlett Hospital, Oxford; J. G. Gardner, Jr., Columbia Clinic Hospital, Columbia; H. N. Holyfield, M.D., Brandon Hospital, Brandon; Mrs. Evelyn Smith, R.N., Tallahatchie Hospital, Charleston.

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Co-operative Buying: Fred J. Vann, Rush's Infirmary, Meridian, Chairman; F. M. Sandifer, M.D., Greenwood Colored Hospital, Greenwood, Vice-Chairman; M. Q. Ewing, M.D., Gilmore Sanitarium, Amory; W. W. Diamond, M.D., Magee General Hospital, Magee; B. B. Martin, M.D., Vicksburg Infirmary, Vicksburg; J. A. Rayburn, M.D., Pontotoc Clinic, Pontotoc; B. T. Whitfield, Corinth Hospital, Corinth.

Hospital Administration: G. D. Stanley, King's Daughters Hospital, Greenville, Chairman; Mrs. Maude E. Varnado, R.N., Laurel

General Hospital, Laurel, Vice-Chairman; L. B. Austin, M.D., Rosedale; R. J. Field, M.D., Field Memorial Hospital, Centreville, James C. Green, M.D., Tupelo.

Care of the Old and Infirm: R. B. Caldwell, M.D., Baldwyn Hospital, Baldwyn, Chairman; Felix J. Underwood, M.D., Jackson, Vice-Chairman; W. H. Anderson, M.D., Booneville; Riley W. Burnett, M.D., Biloxi; J. B. Davis, M.D., Poplarville Hospital, Poplarville; J. R. Hill, M.D., Corinth; H. N. Mayes, M.D., Mayes Hospital, New Albany; James P. Walker, M.D., Lambert Hospital, Lambert.

Co-operative Routine Tissue Examinations: A. M. McCarthy, M.D., George C. Hixon Memorial Hospital, Electric Mills, Chairman; J. C. Henthorne, M.D., Mississippi Baptist Hospital, Jackson, Vice-Chairman; Everett H. Crawford, Walthall Hospital, Tylertown; J. T. Doster, Jr., Doster Hospital, Columbus; Joe P. Evans, M.D., Gulfport; E. T. White, M.D., King's Daughters Hospital, Greenville.

CHICKASAW COUNTY

The staff of the Northeast Mississippi Community Hospital of Tupelo, Mississippi, furnished the program for the regular Houston Hospital Staff Meeeting Thursday night, June 27.

"Diabetes and Surgery" was the subject of a very interesting talk by Dr. L. C. Feemster, Jr. Dr. H. Baker, illustrated his talk on "Pneumonia, Before and After Sulfapyridine" with lantern slides.

Houston Hospital staff plans to furnish Northeast Mississippi Community Hospital with a similar program later in the summer.

During the dinner which was served in the lobby at 7:30 Miss Grace Philpot of Houston, and Miss Ruth Guinn, of McCondy, rendered lovely vocal solos, accompanied at the piano by Mrs. C. H. McCrain.

In addition to other guests, the following doctors were present:

Drs. J. M. Hood, Houlka; E. K. Guinn, McCondy; W. H. Curry, Eupora; A. K. Naugle, West Point; H. Baker, Tupelo; L. C. Feemster, Jr., Tupelo; W. A. Toomer, Tupelo; V. B. Philpot, Houston; J. D. Dyer, Houston; Truitt McPhail, Houston; R. P. Donaldson, Pontotoc; S. K. Gore, Houston; E. B. Young, Vardaman; G. G. Armstrong, Houston; Thomas Gore, Houston; W. J. Aycock, Calhoun City; J. Rice Williams, Houston; W. C. Walker, Houlka; O. F. Carr, Jackson.

Houston Hospital staff meeting was held in the hospital lobby at 7:30 P.M., May 30, 1940. The two guest speakers were from the University of Tennessee, Memphis, Tennessee.

Dr. Conley Sanford, Professor of Medicine, University of Tennessee, spoke on "Amebiasis." Dr. Arthur R. Porter, Jr., Department of Surgery, University of Tennessee, spoke on "Pentothal Sodium Oxygen Anaesthesia." His talk was illustrated by a movie film.

During the meal special music, a duet, was rendered by Mr. John White and Miss Eloise Ford, of Houston.

Doctors present were: Dr. J. H. Stennis, Mathiston; Dr. S. K. Gore, Houston; Dr. E. K. Guinn, McCondy; Dr. J. Rice Williams, Houston; Dr. W. C. Walker, Houlka; Dr. W. J. Aycock, Calhoun City; Dr. H. K. Curry, Eupora; Dr. E. F. Arnold, Bellefountain; Dr. S. W. Pearson, Louisville; Dr. E. L. Richardson, Louisville; Dr. T. G. McPhail, Houston; Dr. Arthur Porter, Jr., Memphis, Tenn.; Dr. Conley H. Sanford, Memphis, Tenn.; Dr. E. B. Young, Vardaman; Dr. B. J. Shaw, Slate Springs; Dr. Douglas D. Baugh, Columbus; Dr. G. G. Armstrong, Houston; Dr.W. M. Dabney, Okolona; Dr. H. M. Williams, Aberdeen; Dr. J. D. Dyer, Houston; Dr. V. B. Philpot, Houston; Dr. J. M. Hood, Houlka.

COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff held their regular monthly meeting at the Alcazar Hotel at 12 noon, Wednesday, June 12. The minutes of the previous meeting were approved as read. Dr. E. L. Wilkins, chairman of the committee on the technician for the Clarksdale Hospital, gave an outline of points which his committee had drawn up. His report was discussed fully by all members present. Dr. J. L. Levy made a motion, which was seconded and passed:

"That the Board of Directors of the Clarksdale Hospital be informed that the Coahoma County Medical Society and the Clarksdale Hospital Medical Staff suggest and recommend that a laboratory and x-ray technician be employed for the hospital laboratory and it further requested that the local Board of Health Laboratory continue to function as it has in the past."

Election of officers for the next six months was then held. It was moved and seconded that the same officers who have served for the past six months continue to serve to the end of 1940. These officers are:

President, L. H. Brevard; Vice-President, T. M. Dye; Secretary and Treasurer, J. L. Levy; Relations Committee, W. H. Brandon, chairman, T. M. Dye, E. L. Wilkins.

REPORT OF HEALTH COMMITTEE—DELTA COUNCIL

—Annual Meeting, May 24, 1940—

The purpose of the Health Committee is to assist, strengthen and co-ordinate the programs now under way by public and private agencies and individuals, for the alleviation of malaria, tuberculosis, malnutrition, venereal and other diseases common to this area. It is our thought that the economic condition of the Delta can be advanced by the improvement in health conditions, which now are a definite drag upon efficiency and in many cases an unwarranted expense.

Early in its study of Delta health problems, this committee realized that additional information concerning the actual health conditions existing, and especially the cost, to the individual and to the section, of sickness and disease, is needed before an effective health program could be developed.

Finding authoritative information on this subject lacking, the committee has endeavored to have necessary investigations made which will reveal those facts needed as a guide in planning a program to alleviate disease and increase the efficiency of our people, particularly in the rural areas.

We are encouraged by national foundations interested in health studies and are hopeful that a thorough survey of conditions will be made during the coming year. We have an appointment with officials of a New York foundation next month in the interest of this research and will continue our efforts in this regard.

Respectfully submitted,

F. M. Acree, M. D. Chairman.

DESOTO COUNTY

Harry Beckman, M.D., Milwaukee, writing in the May, 1940, issue of the Southern Medical Journal on "The Prophylaxis of Malaria," says: "It is my purpose to discuss briefly the chief elements in the prophylactic attack upon malaria; (a) the prevention of Anopheles breeding; (b) the prevention of Anopheles biting, and (c) by the use of drugs in prophylaxis." He states that drug prophylaxis is currently enjoying a return to popularity; and he concludes with this interesting statement, " I think the attempt to determine why some individuals are not bitten by mosquitoes and to make of this a weapon with which others can be rendered similarly obnoxious to these insects is at present an inviting field."

Recently, Dr. Daniel Eleazer Ziskin, of Columbia University's Dental School, reported an effective, new treatment for gingivitis: sex hormone massage. Promptly the gums began to harden, and healthy new tissues began to form the outer keratin layer, forming a coat of armor against bacteria. Dr. Ziskin made it clear that only skilled doctors and dentists could apply the healing salves, for the body's hormone balance is very delicate. Sex hormone tooth-pastes, he warned, might gum up the body's works far worse than gingivitis, or pyorrhea.

At a meeting in June in Cincinnati of the American Psychiatric Association, essayists stated that vitamins are not helpful in treating alcoholic mental disorder. Treatment which they did not find helpful included hospitalization, paraldehyde, spinal puncture and (particularly significant) the attitude of the hospital staff, from doctors to orderlies, toward the patient

The well known medical columnist, Dr. Logan Clendening, of Kansas City, recently had his column as follows: New Stamp Honors Dr. Crawford Long. This Georgian was first to give ether in operating. When Morton of Massachusetts tried to get a grant from Congress, Long had by that time published experience and the honor was restored to him (Long) and has been his ever since.

Dr. John Allen Rhodes died recently at his home in Horn Lake; he had practiced his profession here for thirty years. He was a native Mississippian, taught school and secured his degree of M.D. from Memphis Hospital Medical College. He was a successful practitioner, courteous, had ideas of his own and dared to maintain them, a Mason, member of the Baptist Church, a good citizen, a devoted husband, a fond father and grand-father and will be missed in his community. Mrs. Rhodes is postmistress in her home town. His daughter, Ruth, Mrs. Hughes and family, live in Oxford. Sincere condolences to the bereaved family.

A new synthetic preparation, transentin, has the following structural form: diphenylactyldiethylaminoe - thanolester - hydrochloride. It ought to be useful somewhere.

When duty calls, the doctor is no respecter of persons. Into the lowly hut of the poor, the hut made lowlier still by the attrition of hard fortune, neglect, and perhaps the harshness of scorn, the doctor carries his gift of healings, even as into the imposing mansion on the verdant hill. Amid poverty or splendor, cold or warmth, the brave soul clings to its supreme loyalty to principle. The surgeon wields his instruments with equal precision and dexterity whether his patient be peasant or patrician, homeless waif or scion of the rich.

The doctor's relation to his patrons differs from that of any other profession or business. He is brought in direct contact with the family in a relationship the most intimate as well as the most sacred and serious that falls to the lot of man.

Following a fine custom of our times, should we not designate a Doctor's Day as a counterpart of Mother's Day, Father's Day, and other days on which we pay special tribute to persons or to causes?

The above are extracts from a speech on The Doctor—Humanity's Greatest Test Benefactor, by Hon. Theodore G. Bilbo, of Mississippi, in the Senate of the United States.

"These d— fellows are so d— thorough, d— them." The identification tag worn by each German soldier also shows to what blood group he belongs in event of surgical emergency.

We are strongly inclined NOT to wish these folks any good luck at all but to the contrary the reverse.

In these strenuous and eventful days, no one knows what a day will bring forth, but we should ever bear in mind the admonition of the great Englishman, Oliver Cromwell, who said, "We should trust in the Lord but keep our powder dry." As a result he made the name of England respected and feared at home and abroad.

Proof and explanation of the negro's superior ability to do physical work, whether in industry, sports or war, at high temperatures was obtained from studies of negro and white sharecroppers in Mississippi.

Crucial experiment was a two-hour walk on a treadmill in which each man covered seven miles and climbed about 3000 feet at a temperature of 87 degrees Fahrenheit and a humidity of about 80 per cent. During this test, the negroes lost less salt and water from their bodies in sweat than the whites, did not get quite as hot as the whites as shown by body temperature readings, and in consequence did not come as near exhaustion as measured by the heart rate.

Under conditions such as this experiment, when the heart rate reaches 180 beats per minute, Prof. Dill explained, the man is "usually on the verge of exhaustion."

At the end of the two hours, the mean value for heart rate for 20 negro sharecroppers was 152, while for the seven white sharecroppers it was 173.

Most Beautiful Words

Adoration, divine, eloquence, faith, happiness, harmony, heaven, honor, hope, innocence, joy, liberty, melody, modesty, love, nobility, purity, splendor, sympathy and virtue have been picked as the 20 most beautiful words in the English language.

Backwater Fever Case Caused By Spider (Not a Black Widow)

A case of backwater fever caused by a spider bite is reported in the April 20 issue of the Journal of the American Medical Association, written by Dr. Henry B. Gotten, of Memphis, and Dr. J. J. MacGowan, of Ashland, Miss.

According to the report, this is rare. It states:

"We are reporting a case of backwater fever caused by a spider bite. In a review of the recent literature we have been unable to find a similar case.

"Another interesting fact is that it is commonly thought that the 'black widow' spider (Latrodectus mactans) is the only one which will cause a profound illness. In this instance the illness was caused by an insect not of the Latrodectus mactans variety."

In the report, the doctors state that last August a three-year-old youngster in a rural community was bitten on the left flank by a large brown spider. The child's mother, who removed the spider from the child's clothing, was certain it was not a "black widow."

A detailed report of the treatment is given and the child recovered.

"It is a common impression, particularly in this section of the country (the South) that backwater fever is only caused by malarial infections," the report states. "It is known, however, that occasionally backwater fever is caused by toxemia from drugs of by severe infections."

We universally acclaimed Saint Luke as the beloved physician; he is mentioned in Colossians 4:14. A native of Antioch, he is the author of The Gospel, according to St. Luke, the synoptic Good News concerning Christ also The Acts of the Apostles. He was a companion and physician to the great Apostle to the Gentiles, St. Paul. Later in Paul's ministry when some who had followed ceased to do so, he writes II Timothy 4:11, "Only Luke is with me," testifying to the constancy and fidelity of this "beloved disciple" and "physician." How often is this the case, "only the doctor was there." The first three chapters of St. Luke's Gospel, including the Annuciation, has no equal in English literature. The meeting of Mary, the mother of Christ, and her cousin, Elizabeth, the mother of John the Baptist, both heavy with child, is related in the most tender manner.

"And Mary said, My soul doth magnify the Lord. Through the tender mercy of our God; whereby the day spring from on high hath visited us."

This Babe of the Virgin Mary was likewise The Great Physician, whose constant want was to do good.

The physician of today can receive inspiration and help by following in the foot-steps of these physicians of old.

Rt. 4, Memphis, Tenn. L. L. Minor,
June 18, 1940. Editor.

JONES COUNTY

The Jones County physicians met at 7:30 P.M., Friday, June 28, in the Nurses' Home of the South Mississippi Charity Hospital at Laurel and reorganized the Jones County Medical Society. Dr. Eugene A. Bush was elected president, Dr. Lovett Golden as vice-president, and Dr. T. Paul Haney as secretary-treasurer. The society authorized the president to appoint a program committee which will be responsible for planning interesting, scientific programs.

The society decided that it should hold its meetings monthly at 7:30 P.M. each second Friday of the month. The meetings will usually be held in the auditorium of the nurses' home, but change in the place of meeting may be made any month if it is the will of the society.

It was decided that the program should consist of scientific papers, presentation of which shall last not over fifteen minutes. Five minutes will be given each physician scheduled to discuss the papers. There will usually be from two to three and never over three papers presented at any one meeting. As a part of each monthly program time will be allotted for the attention of business of the local hospital staffs. Among other things, this will include case reports of deaths that have occurred in the hospitals.

Only physicians living in Jones County will be eligible for official membership in this society. Every physician in Jones County is invited to membership and active participation in the work of the society. Any expense incurred by the society will be borne by its membership. The secretary was authorized to pay all the outstanding bills against the society.

All business of the society having been attended to, Dr. W. H. Anderson, president of the Mississippi State Medical Association, was presented by Dr. Haney. Dr. Anderson gave a most interesting and helpful address outlining the many advantages to the people and physicians of this area that would accrue as a result of the organization of this society, and emphasizing the need for co-operation among physicians throughout the state and country. Dr. Anderson paid many nice compliments to the physicians of this county and regretted the absence of Dr. Joe Green, recently deceased, and who had as president of the State Medical Association, and as a private physician, been one of our most outstanding physicians in this state. Following Dr. Anderson's address the meeting was adjourned.

The following were present: Dr. E. C. Armstrong, Dr. H. L. Boone, Dr. Eugene A. Bush, Dr. J. C. Butler, Dr. J. S. Gatlin, Dr. Lovett Golden, Dr. W. S. Harper, Dr. J. B. Jarvis, Dr. Charles R. Jenkins, Dr. H. G. McCormick, Dr. J. K. Oats, Dr. C. H. Ramsey, Dr. Frank L. Ramsay, Dr. Thomas R. Ramsay, Dr. F. L. Rishes, Dr. T. Paul Haney.

WASHINGTON COUNTY

The regular meeting of the King's Daughters Staff was held June 5. Dinner was served in the hospital dining-room to fifteen members, Dr. J. G. Archer presiding over the meeting.

The health committee reported that the local physicians and not the county health department are to give prophylactic rabies treatment. The health department is to furnish the vaccine at a cost of two dollars and a half ($2.50) to the patient.

The advisory committee presented a revised copy of the hospital by-laws for inspection, approval and signing by the staff.

The program consisted of:

(1) Dr. L. C. Davis reported a case of severe leucopenia with fatal termination.

(2) Dr. H. A. Gamble presented a case of chronic duodenal obstruction with films of operation for same being shown.

It was agreed upon to invite the Washington County physicians to attend the July staff meeting.

The morbidity report was then read.

Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASS'N.

President	Mrs. E. C. Parker	Gulfport
President-elect	Mrs. W. K. Stowers	Natchez
First Vice-President	Mrs. Hugh H. Johnston	Vicksburg
Second Vice-President	Mrs. Augustus Street	Vicksburg
Third Vice-President	Mrs. W. H. Anderson	Booneville
Assistant	Mrs. Stanley A. Hill	Corinth
Fourth Vice-President	Mrs. B. B. Martin, Jr.	Vicksburg
Recording Secretary	Mrs. H. C. Sheffield	Jackson
Treasurer	Mrs. J. D. Simmons	Cleveland
Historian	Mrs. V. B. Philpot	Houston
Parliamentarian	Mrs. C. C. Hightower	Hattiesburg
Research on History of Medicine	Mrs. G. D. Mancill	Indianola
Public Relations	Mrs. John B. Howell	Canton
Public Policy and Legislation	Mrs. F. L. Van Alstine	Jackson
Honorary President	Mrs. Dan J. Williams	Gulfport
Memorial	Mrs. Henry Boswell	Sanatorium
Doctor's Day	Mrs. W. H. Cleveland	Tupelo
Exhibits	Mrs. John S. Harter	Sanatorium

Councilors: First District, Mrs. H. L. Cockerham, Gunnison; Second District .... Third District, Mrs. T. H. Rayburn, Pontotoc; Fourth District, Mrs. Paul Brumby, Lexington; Fifth District, Mrs. H. E. Frizell, Vaughn; Sixth District, Mrs. R. L. Simmons, Meridian; Seventh District, Mrs. S. E. Bethea, Jr., Hattiesburg; Eighth District, Mrs. Lucien Gaudet, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point.

Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITY CALENDAR

June—Hygeia.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Pre-Natal Care.
April—Cancer.
May—Alcohol.

What has your auxiliary done during the month of June in regard to placing Hygeia in the doctors' offices, the school library and beauty parlors? Please send to Mrs. W. H. Anderson, of Booneville, a report of the number of Hygeias sold to date.

July is the month to which special attention is to be given to the prevention of accidents. We, as auxiliary members, are urged by Mrs. E. C. Parker, state president of the Woman's Auxiliary, and Dr. W. H. Anderson, president of the Mississippi State Medical Association, to stress accident prevention during the month of July. Articles can be published in your local papers, talks included in your club meetings or posters put in the business windows. There is a number of ways in which this program can be carried out to make every individual in the state "accident-minded." May each do her part in co-operating with the program outlined.

You are proud of your auxiliary and the work that it is accomplishing. Other auxiliaries throughout the state would like to know about this good work also. They may learn about you if you'll send your reports in.

Let's make 1940-41 the greatest years ever. What to do about it? Follow the outlined activity calendar and ACT!

SAFE AT HOME

(To Dr. F. M. Acree, of Greenville, we are indebted for the activity article this month).

Almost every day you hear someone say, "Well I am safe at home," and almost every time you start out in the car someone cautions you "Please be careful" — yet the annual report of the National Safety Council shows the startling fact that for the years 1935 to 1938, 35% of all fatal accidents happen in the homes and only 34% on the highways! In other words we are 1% safer on the highway than at home. It is indeed a startling fact when we realize that the death rates have increased 10% from 1935 to 1936 and that during these years the cost of such injuries has amounted to $3,700,000,000 the number killed, 111,000, permanently disabled, 400,000, 10,730,000 injured, and 35% of all these accidents occured while we were safe at home. With stuttering disbelief, America gasps at the truth; for the highways have been long advertised as the dangerous home stretch on which the race of life and death is run and lost. During 1936 home accidents accounted for 38,500 deaths!

Why is it that more people are being killed at home than on the highways? The answer is that people have been educated along the lines of safe and careful driving and accidents in the homes are hushed up. A hip broken by a fall on the family bathtub is not a sprightly topic of conversation; we do not brag about slipping on a carpet which could so easily have been made nonskid; there can be no glory in poisoning our children through carelessness in leaving medicine bottles about. In short, home accidents result from a personalized equation of mischief-making and stupidity. Those responsible maintain a discreet silence, and naught but a carefully concealed "X" marks the spot. Home accidents go in the bedroom and close the door; they steal into the living room and pull down the shade and whisper in the cellar and hide in the attic. Wo do not ask about details. Oh, no, that would be prying, and home life is strictly private—unless a man runs away with his neighbor's wife, which is no accident.

It is high time that we do something to prevent such an appalling number of accidents. We must become educated in the prevention of home accidents just as we have been educated about highways and accidents. What can be done?

Most homes have stairs and steps. All stairs should have strong rails securely fastened. Railings at the open side of stairways should never be less than thirty-one inches high; there should be sufficient head room, well lighted. The floor should be of contrasting color so that a person will know when the bottom is reached. Rugs, especially small ones, should not be put on the landing or at the head or foot of the stairs. If rugs are used they must be made non-skid. Worn or broken steps should be replaced or repaired at once. Steep or narrow stairs should never be built into the new home. In old houses they should be remodeled if at all possible. Stairs should be clear of all articles such as toys, brooms, flower stands, etc., that might cause someone to fall.

Most houses have floors and these are an important feature in our study of safety at home. Worn, flat-grained flooring is dangerous because of splinters which might cause someone to have blood poison. Be sure that the rugs on the floors do not skid and cause one to trip. Mop up all grease and water at once because a rubber heel may slide or fly out and cause a serious accident. Teach the children to pick up their toys, such as marbles, books, etc., and provide a basket or box for them to store them in.

A porch is always a source of pleasure but can be a dangerous thing. A porch with a slanting floor, rotten foundation and leaky eaves may cause a fall on a wet or cold day. Provide strong railings. Vertical palings should be installed so that children may be prevented from climbing them. Build gates at the head of the steps and stairs.

The bathroom is a favorite place for accidents to happen. Strong rails or hand holds should be provided to use when persons are getting out of the tub or shower. Rubber mats in the bottom of tub or shower should be used in order to prevent slipping. Stationary soap dishes should be in every bathroom to prevent the soap from falling in the tub. In most homes the medicine cabinet is in the bathroom—and here is a source of danger, particularly for the children. The medicine cabinet should always be built high enough to be out of reach of the children and above all keep all poisonous and harmful drugs out of the cabinet and under lock and key. Lysol and bichloride of mercury are the commonest of dangerous drugs. Unlabeled bottles should be thrown away and one should never administer anything from an unlabeled bottle.

Another common cause of injury is a ladder. Ladders should be strong enough and properly locked and placed before using. Don't set a ladder up straight for climbing. Give it some slope so it won't tip backward. If a scaffold is being built it should be made secure with strong timbers and nailed solidly. Chairs with broken legs, broken rockers and broken backs are tricky things. If such a chair is not worth repairing, demolish it before someone gets hurt.

Marbles scattered on the floor, frayed extension cords, a lamp on a rickety table with a fringed scarf hanging over the edges, hot water bottle with stoppers that are easily loosened, defective heating pads may cause an accident, which may prove fatal or which may cause some permanent disability. Smoking in bed or carelessly throwing away a cigarette may cause a fire which may not only destroy a home but cause deaths by burning. Always use safety matches if there are children in the house.

The following precautions should be used widely, and through these safety measures lower the rate of fatalities of home accidents. Paint the bottom step of cellar stairs white. Keep all kitchen knives in wall rack and not in a tumbled drawer. Put adhesive tape on medicine boxes. Turn handles of cooking pots from the outside edges. The well nigh universal failure to do this helps explain the fact that one death in four among very young children accidently killed is due to scalds or burns. Investigate any odor of gas at once—but don't look for this leak with a lighted match or candle—use a flashlight. A common cause of gas poisoning is to allow a fluid to boil and extinguish the flame. Make certain that the pilot light on the gas range is lit or the supply cut off. Be sure that the gas heater connections are tight and that there are no leaks in rubber pipes. Never use a defective electrical appliance and don't use a cleaning fluid at home even where no flame is present; the friction caused by the rubbing of these garments in the cleaning fluid had caused many serious explosions the results of which are too obvious to be discussed.

Of all accident fatalities last year, 35% happened in the home, 34% on the highway; 18% resulted from public accidents, and 16% were occupational fatalities.

74% of all fatal falls and 81% of all fatal burns occur in the home.

FOUR-COUNTY UNIT

Meeting with Mrs. M. B. Rhodes and Mrs. H. A. Stokes in Guntown, June 4, the members of the Four-County Unit to the Northeast Mississippi Thirteen Counties Auxiliary were happy to have an interesting talk on "Individual Thinking" by Dr. A. J. Stacy, of Tupelo, and two readings by Mrs. Bernard Patrick, of Corinth, as special features of their meeting in June.

At the business session Mrs. Stanley Hill, assistant press and publicity chairman, urged placing HYGEIA in doctors' offices, schools and beauty parlors in each town represented. The president, Mrs. W. L. Orr, of Fulton, appointed Mrs. R. W. Carruth, of Tupelo, sec'y-treas. to fill the expired term of Mrs. J. H. Green, deceased. She also announced the following nominating committee: Mrs. W. H. Eason, Tupelo, Mrs. H. J. Kellum, Tupelo, and Mrs. B. C. Cantrell, Plantersville.

The next meeting will be in September at the home of Mrs. R. B. Caldwell, Baldwyn.

HYGEIA REPORTS

Issaquena-Sharkey-Warren Auxiliary—12.
Alcorn Auxiliary—8.
Harrison-Stone-Hancock—11.
Prentiss County—6.

These are incomplete—why haven't you sent in your HYGEIA report?

SPECIAL NOTICE

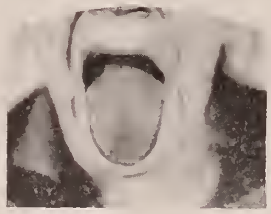
Physicians of Mississippi

This notice is to advise the doctors who made reservations for a copy of the book, "Physicians of Mississippi," as surveyed by Robert L, Rice operating as the Southern Research Bureau of Gulfport, Mississippi, that this publication is now being prepared by the Booneville Printing Company, Inc., and its release will be made in the near future.

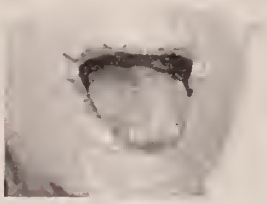
The biographical material is being re-edited and put in complete form in keeping with the dignity of the profession, that the doctors may be well pleased with the finished product.

Robert L. Rice, Editor

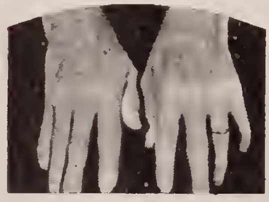
When the Clinical Picture of Vitamin B Complex Deficiency is Dominated by PELLAGROUS SYMPTOMS



The glossitis of pellagra; the tongue is beefy red, the mucous membrane smooth and usually dry.



Fissures at the angles of the mouth have been ascribed to riboflavin deficiency. To be differentiated from perlèche.



The bilateral, symmetrical dermatitis of pellagra involves the extensor surfaces of both wrists.

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Other manifestations of vitamin B complex deficiency often seen in the pellagrin—glossitis, cheilitis, polyneuritis, gastrointestinal affections—are usually amenable to the other components of the B complex provided in Nicolexin.

Prepared from vitamin-rich extracts of liver and yeast with added nicotinic acid amide, riboflavin, and thiamin chloride, Nicolexin presents in each capsule approximately 20 mg. nicotinic acid amide, 50 Sherman units vitamin G (riboflavin), 100 International units vitamin B_1, and, according to the methods of assay employed, 40 Jukes-Lepkovsky Filtrate Factor units and 100 gammas vitamin B_6.

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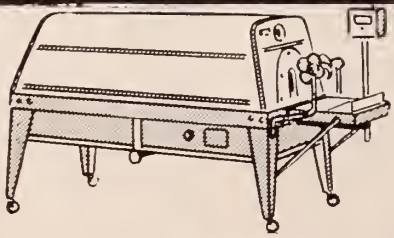

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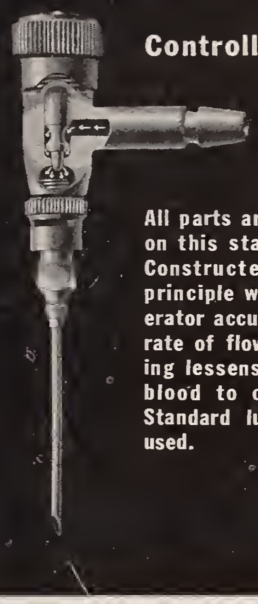

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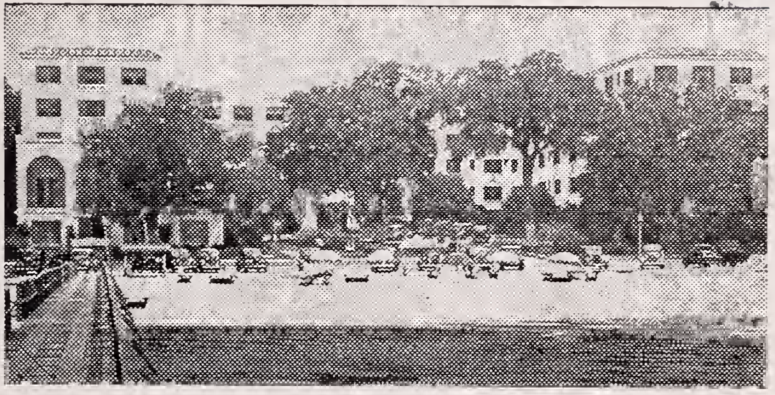

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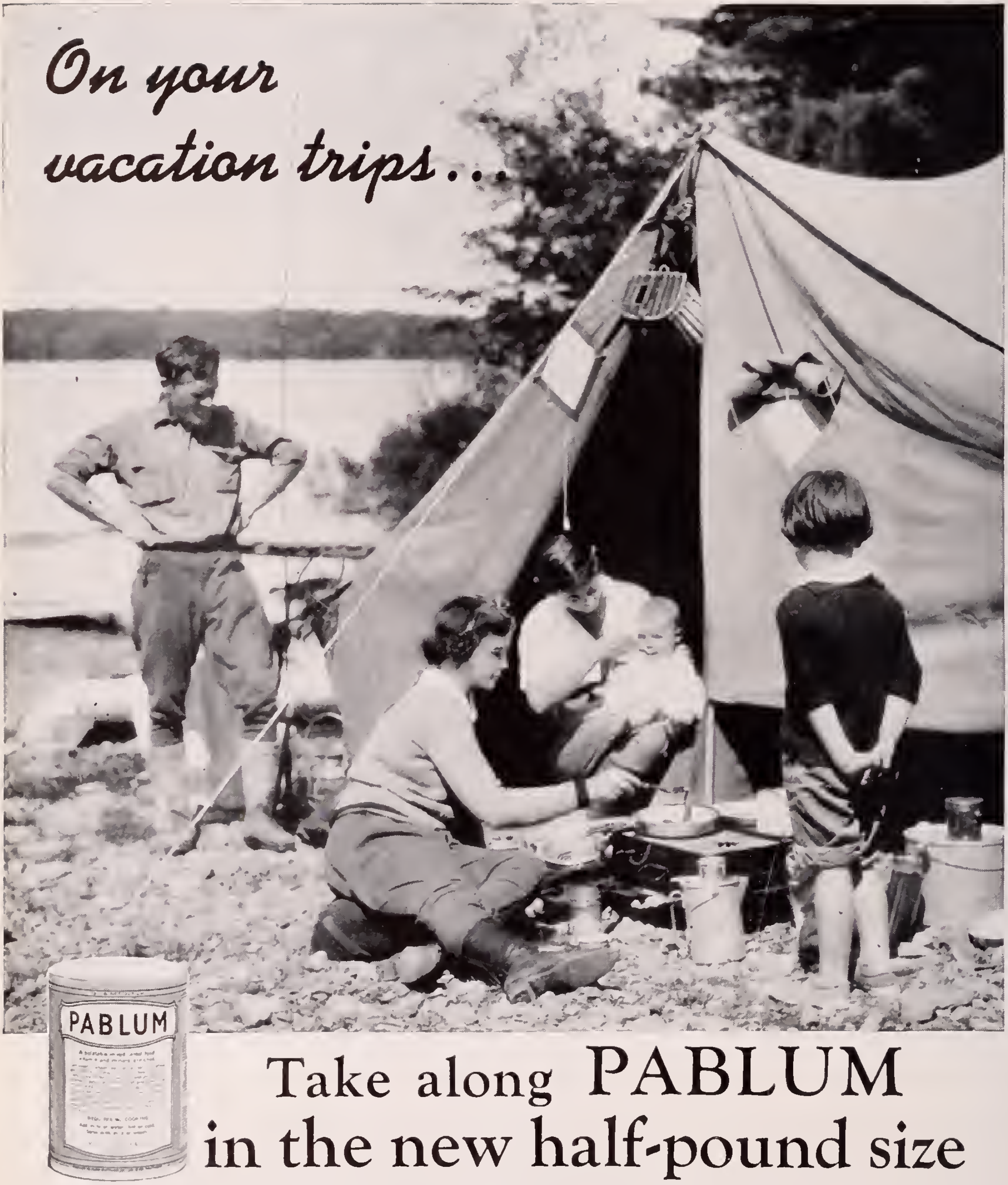

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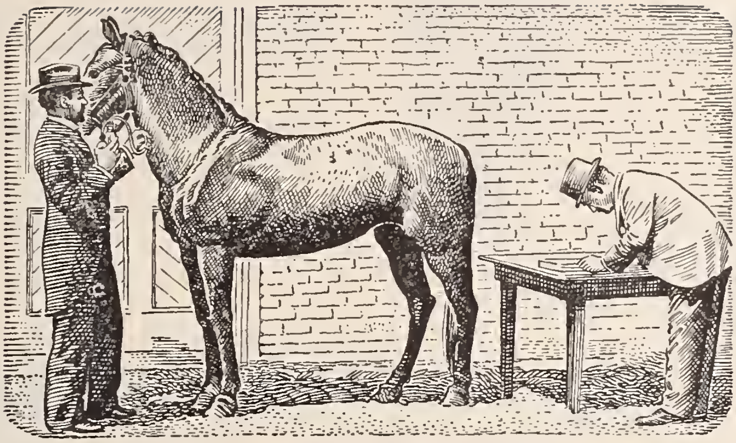

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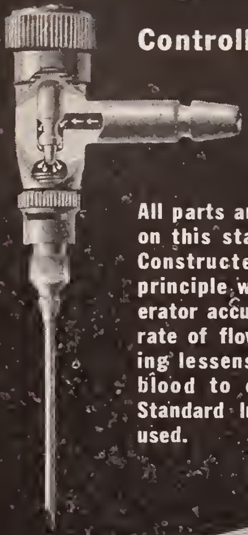

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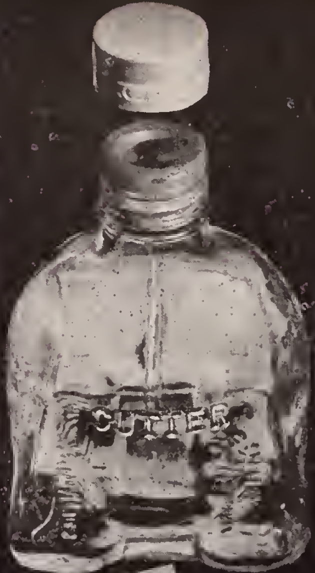

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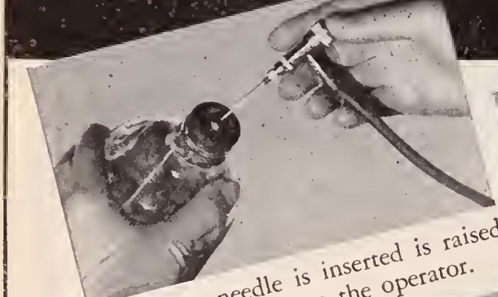

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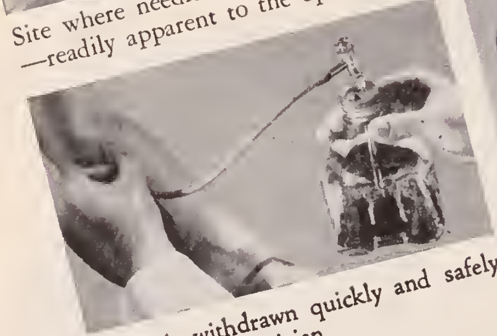

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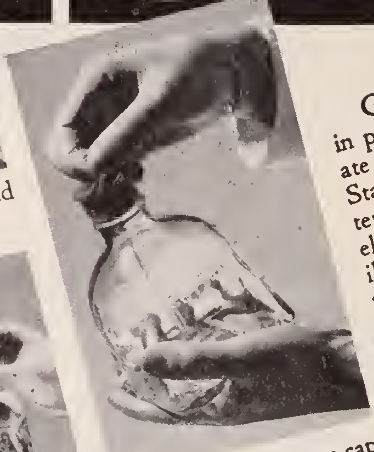

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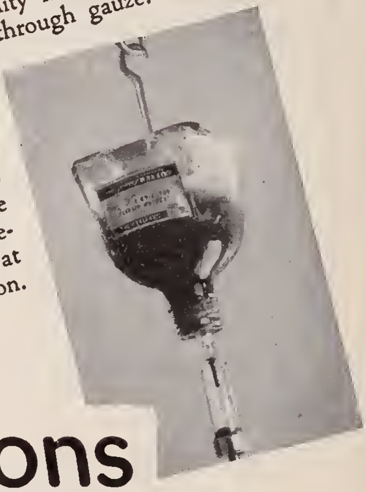

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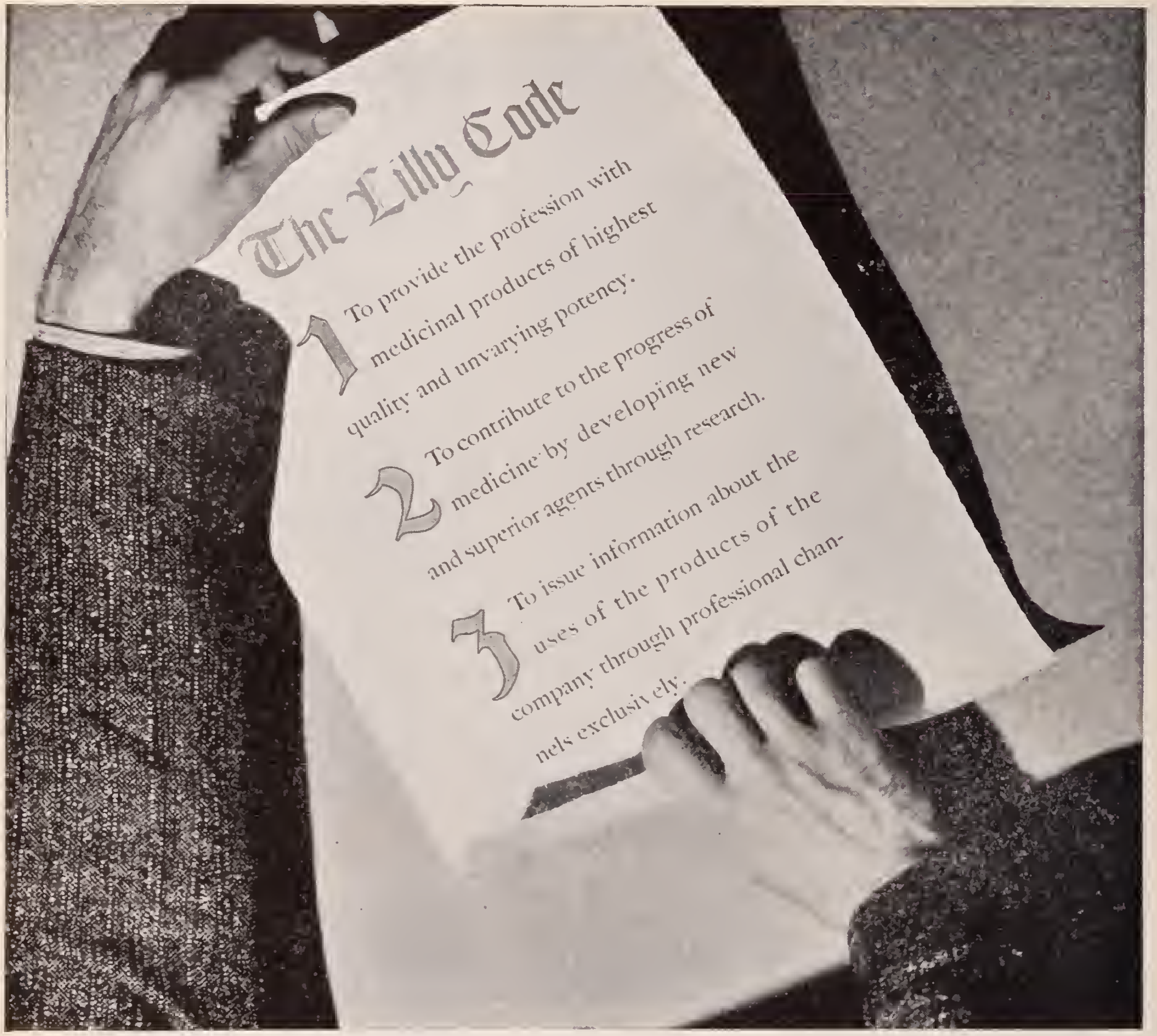

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The Mortality Factors in 4000 Operations on the Biliary System*

CHAS. GORDON HEYD, B.A., M.D., F.A.C.S., D.M.Sc.†
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NEW YORK, N. Y.

A CYNIC ONCE REMARKED that if an author took data from one man it might be considered plagiarism, but if you selected material from a number of authors your contribution was dignified by being called research.

This study is based upon a critical examination of 5200 consecutive cases of gall bladder disease treated at the New York Postgraduate Hospital from January, 1920, to June, 1937. Three thousand, nine hundred and eighty-six of this group were operated upon by 53 surgeons. A critical study of the morbidity and mortality of the surgical cases was undertaken by Drs. Heyd, Carter and Hotz to evaluate the mortality factors arising from surgical procedures in gall bladder and biliary disease. The distribution between private and clinic patients was nearly 50-50 and the author contributed approximately 20 per cent of the material studied.[1]

A number of years ago an analysis was made of a large number of the case histories of patients suffering from gall bladder disease and it was found that according to the symptomatology definite symptom groups could be established. There were first those patients with symptoms of indigestion, protean in character but without much interference with general nutrition. The second group comprised the patients with a history of chronic indigestion, interrupted by a dramatic event in the form of an acute gall bladder attack, with or without jaundice. The third group comprised individuals with a history of a number of attacks of gall bladder colic and who symptomatically expressed the typical syndrome of intermittent calculous cholangitis. The fourth group represented late cases of pancreatitis, of malignancy of the gall bladder, ducts or ampulla and plus a history of chronic biliary disease of fifteen to twenty years' duration. At that time no statistical study was attempted as to the numerical frequency of each group. As a by-product of a study of the symptomatology of biliary disease it became apparent that many individuals had in addition to their local symptoms of indigestion, colic and jaundice, remote symptoms that had to do with metastatic infection or nutritional changes in remote viscera, leading to a variety of nephropathies, myositis, neuritis and arthropathies. Furthermore, there was a group of patients who gave definite evidence of myocarditis, with attacks of pain closely simulating that of acute coronary thrombosis. Again, in some patients with chronic gall bladder disease there was a generalized state of disability and poor health, characterized by a low grade pigmentation of the skin, varying degrees of poor vision, of low blood pressure, of malnutrition, asthenia and emaciation. It is obvious that in chronic gall bladder and biliary disease we are concerned with a continuous pathological process that progresses by direct extension of tissue and involving in sequential order the external biliary system and the intra-hepatic bile canaliculi, pancreas, and other remote viscera.

The basic element in disease of the biliary system is undoubtedly infection but the whole story of biliary disease is not comprised in the word "infection." There are other ancillary factors that enter into the pathological process. There are probably many occult metabolic changes that are induced by infection. Adami, in describing "sub-infection" alluded to the fact that viable and active bacteria are and can be eliminated in the bile and we know that were it not for the interposition of the liver between the portal and general circulation all animals would die of septicemia within a relatively short time. The liver does exercise a buffer or filter function against bacteria and toxins that arise from the alimentary tract.

---

*Read before the fifty-fifth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 13-16, 1940.

†From the Gall Bladder Clinic, Departments of Surgery and Medicine, New York Postgraduate Hospital, Columbia University.

It is not without interest that gall bladder affections occur three times as frequently in females as in males; that cholesterol in the parturient woman is four times greater than in the non-parous state; that gall bladder disease is intimately associated with fibroids, obesity and colloid goiter in females. In a personal series[1] of gall bladder patients, fibroids were associated with disease of the gall bladder system in 13 per cent of the cases. Whether cholesterosis is an essential pathological lesion is a controversial point. It is found in 38 per cent of all patients that come to postmortem and in 21 per cent is the only lesion present. This data may be contrasted with the fact that in the same group of 612 routine postmortems 62 per cent showed gross evidence of gall bladder disease, so that if the 21 per cent of cholesterosis only were deducted 41 per cent of the persons coming to routine postmortem showed actual gall bladder pathology[2].

It may be assumed that about 15 per cent of all individuals over 40 years of age have gall stones and an additional 15 per cent of the people over 40 will have evidence of cholecystitis without gall stones, without counting the cases of cholesterosis. (Ibid).

A disease of such marked frequency and with an inherent progressive pathological character must occasion great interest and stimulate our efforts to arrive at the most rational and the safest method of treatment. The answer to any diseased condition was written formerly in the mortuary. Today pathologic changes are written in the operating room and the terminal findings in the mortuary. A consideration of the mortality factors involved in gall bladder disease should include the mortalities that occur while under medical therapy as well as those that follow surgical intervention. The vital statistics of health departments on non-operative deaths from gall bladder disease are inclusive only as to the actual terminal cause of death. Death from gall bladder disease without surgical intervention will seldom be listed with reference to the predeterminant gall bladder factor, and a terminal myocarditis, a pneumonia, or nephritis may euphemistically cover medical gall bladder deaths.

It is obvious that in the course of nature individuals will and must die. All of us, however, look forward to the time when right living and medical science will defer the termination of life to at least the biblical three score and ten. Admitting this, as an end devoutedly to be wished, are there certain lethal factors in the present surgery of gall bladder disease that may be removed or obviated so as to lessen the surgical hazard of mortality and morbidity. In order to reach some definite conclusions it would be well to survey certain general conditions that influence mortality. First, is the gall bladder disease, from the very nature of the condition, incurable? (1) Malignancy of the gall bladder, common duct and head of the pancreas comes within this category. Mortality from malignancy may be prevented when certain predisposing conditions are removed. Calculi were present in 90 per cent of the gall bladders with malignancy. Insofar as the removal of the diseased gall bladder with calculi would lessen continuing irritation some at least of these carcinomata might have been prevented. (2) The unavoidable and inexplicable accidents of surgery—embolism, apoplexy, pulmonary collapse. (3) Mortalities that may be lessened by adequate pre-operative treatment—cardiac disease, nephritis. (4) Mortalities that may be due to inadequacy of hospital equipment, anaesthesia, to derelictions in pre- and post-operative treatment, to inadequate surgery, to faulty diagnosis, to lack of surgical judgment, and to amateur status of the surgeon. Some. but not all of these, may be prevented.

From January 1, 1920, to June 30, 1937, 5,200 consecutive cases were examined and discharged from the Postgraduate Hospital with the diagnosis of cholecystitis, with or without other pathological changes in the external biliary system. 3986 of these patients were treated surgically and 309 died, with a basic mortality of 7.7 per cent. The causes of death in these 309 patients in the order of frequency were peritonitis, pneumonia, myocarditis and varying types of liver insufficiency. There were in all 3306 patients with a diagnosis of chronic cholecystitis and of these 2438 had a simple uncomplicated cholecystectomy with a mortality of 3.6 per cent. When, however, cholecystectomy for chronic cholecystitis was combined with choledochostomy, the mortality increased to 11.3 per cent, and when cholecystectomy was combined with such operations as gastro-enterostomy, the

TABLE I

ANALYSIS OF 3,986 CONSECUTIVE OPERATIONS OF THE BILIARY TRACT (1920-1937)

Operation	Total Number	Mortality (No.)	Mortality (Per Cent)
Chronic Cholecystitis			
Cholecystectomy	3,240	190	5.8
Alone or with appendectomy	2,438	88	3.61
With dochostomy	238	27	11.34
With other operation	568	74	13.03
Cholecystectomy with dochostomy and other operations	6	1	16.16
Cholecystostomy	66	22	33.3
Alone or with appendectomy	43	13	30.24
With dochostomy	16	6	37.50
With other operation	7	3	42.80
Total	3,306	212	6.40
Obstructive Biliary Disease			
Cholecystogastrostomy	52	15	28.8
Choledochostomy only	37	13	35.1
Choledochostomy with other operations	2	2	100.0
Plastic on ducts	5	3	60.0
Total Obstructive	96	33	34.4
Acute Cholecystitis			
Cholecystectomy	517	45	8.82
Alone or with appendectomy	428	32	7.47
With dochostomy	89	13	14.60
Cholecystostomy	45	13	28.80
With dochostomy	9	3	33.33
Total cholecystostomy (with 3 other operations)	57	18	29.63
Total acute cholecystitis	574	64	10.97
Total for all biliary tract operations	3,986	309	7.7

TABLE II

CHRONIC CHOLECYSTITIS

Factors Influencing the Morbidity and Mortality in Surgery for Chronic Cholecystitis

	No. of Cases	Morbidity	Per Cent Mortality
(A) Multiple surgery (Cholecystectomy plus secondary operation)	575	1.72	13.85
1. With gastroenterostomy	128	...	16.4
2. With pyloroplasty	111	...	9.9
3. With gastric resection	61	...	31.1
4. With acute appendix	31	...	13.0
5. With hysterectomy	59	...	11.8
(B) Conservative treatment in acute cholecystitis			
1. Subsided acute	474	1.59	11.02
2. With chronic abscess or old perforation into colon	46	2.20	38.0
3. Cholecystostomy in previous acute	15	1.58	20.0
(C) Cholecystostomy in chronic*	68	1.50	7.4
(D) Jaundice (especially necessitating common duct surgery)	254	...	13.0
(E) Delay in surgery for chronic cholecystic symptoms. Series with less than two years' history	959	...	1.35
Total series of chronic cholecystitis	3,303	1.31	6.4

*Means cholecystostomy for a previous chronic infection—now followed by a cholecystectomy.

TABLE III

An Analysis of the Results of Operation in Chronic Cholecystitis When Definite Symptoms Have Been Present Less Than Two Years

	No.	Deaths	Per Cent Mortality
Uncomplicated cases	959	13	1.35
Complicated*	311	22	7.10
Total operations	1,270	35	2.75

mortality was 16.4 per cent; with pyloroplasty, 9.9 per cent; with gastric resection 31.1 per cent; when complicated by an acute appendicitis 13 per cent, and when cholecystectomy was combned with hysterectomy the mortality was 11.8 per cent.

It is obvious that simple cholecystectomy has a sufficiently high mortality when performed alone as to prohibit multiple operations. It is true that we found that chronic cholecystitis was complicated by an incidence of 10 per cent of gastro-duodenal ulceration[1].

The duration of the disease before operation is the largest single factor of mortality in disease of the biliary system. In 959 uncomplicated cases of cholecystitis in which there was no history of previous acute attacks and when definite symptoms had been present less than two years there were 13 deaths with a mortality of 1.3 per cent. As contrasted with this low death rate there were 311 cases with a history of previous acute attacks or when definite symptoms had been present more than two years with a mortality of 7.1 per cent. This differential in increased mortality of nearly 6 per cent between the simple uncomplicated cases and those with a history of previous disease has considerable bearing upon the presence or absence of calculi in the gall bladder and common duct. 69 per cent of the chronic cholecystitis cases had calculi in the gall bladder; in 7.7 per cent of these cases stones were found in the common duct; in 6 per cent of the non-calculous cholecystitis cases stones were found in the common duct. The frequency of calculi in the common duct is largely dependent upon the duration of the previous gall bladder disease. In time sequence the history shows first cholecystic symptoms, then the added complication of common duct infection with calculi. There were 1270 patients with cholecystic symptoms less than two years, with 24 cases of common duct disease with calculi,—a common duct stone incidence of 1.9 per cent: 1020 patients with cholecystic symptoms from 2 to 10 years, with common duct stone incidence of 9 per cent: 610 patients with cholecystic symptoms from 10 to 35 years, with common duct stone incidence of 16 per cent.

TABLE IV

DURATION OF CHOLECYSTIC SYMPTOMS IN COMMON DUCT STONE

Duration of Symptoms	Total Cases	Common Duct No.cases	Per cent Common Duct Stone
Under 2 years	1,270	24	1.9
2-10 years	1,020	92	9.0
10-35 years	610	97	16.0

It is obvious, therefore, that the same elements of infection which produce disease in the gall bladder do produce calculi in the common duct. The continuous bathing of the common duct with the products of infection from a cholecystitis can produce common duct stones without necessarily having preceding calculi in the gall bladder.

In 574 cases of acute cholecystitis 89 per cent had calculi in the gall bladder and 18 per cent had common duct calculi. Cholecystectomy was performed on 517 patients with acute cholecystitis, with a mortality of 8.8 per cent. Cholecystectomy was combined with choledochotomy for acute cholecystitis 89 times, with a mortality of 14.6 per cent, while cholecystostomy for acute cholecystitis was performed 45 times, with a mortality of 28.8 per cent. When choledochotomy was added to cholecystostomy for acute cholecystitis the mortality rose to 33.3 per cent. Cholecystectomy was combined with choledochostomy in approximately 7 per cent of all cholecystectomies, with a gross mortality of 11.3 per cent.

TABLE V

OPERATION FOR ACUTE CHOLECYSTITIS

	Operations	Deaths	Mortality
Cholecystectomy	428	32	7.47%
with Dochostomy	89	13	14.60%
Total Cholecystectomy ...	517	45	8.82%
Cholecystostomy	45	13	28.80%
with Dochostomy	9	3	33.33%
Total Cholecystostomy ...	57	18	29.63%
(with 3 other operations)			
Total for All Acute Cholecystitis	574	64	10.97%

The common duct was explored in 98, or 17 per cent of the 574 cases of acute cholecystitis in combination with a cholecystectomy and calculi were found in 82 per cent of the cases. Various surgeons have indicated the necessity of exploration of the common duct. We must confess to a certain degree of conservatism in exploring the common duct. We believe that there is indubitable evidence as to when the common duct should be explored. Walters goes so far as to state that infection of the common duct is inevitable and invariably associated with dilatation. We have, however, been impressed with a few cases in which there was undoubted infection of the common duct and which on exploration revealed a contracted common duct system and without any calculi being demonstrable or later being exposed by cholangiography and whose subsequent career justified the assumption that calculi had not been overlooked. We are, however, impressed with the fact that on secondary exploration of the common duct, after a previous cholecystectomy, calculi were found in 80 per cent of the cases.

In 39 patients a choledochostomy was performed after a previous cholecystectomy. Six of these 39 patients had been operated upon previously at the New York Postgraduate Hospital and 32 of the group, 80 per cent, had calculi of the common duct.

It is not without interest that in the group where the common duct was explored and calculi were not found the mortality was 3.8 per cent, whereas the group with calculi in the common duct on exploration had a mortality of 12.8 per cent. Of the 238 cases of common duct exploration in this series drainage of the common duct was utilized in all but 8 of the cases, usually in the form of T tube drainage.

Cholecystostomy comes out rather badly as a surgical procedure for chronic cholecystitis. (Table I) In 3306 operations for chronic cholecystitis it was performed 66 times—2 per cent of the total surgery for chronic gall bladder disease. The basic mortality for cholecystostomy was 33.3 per cent. It was performed alone in 43 patients (with or without appendectomy) and the mortality was 30.2 per cent; when combined with choledochostomy the mortality was 37.5 per cent. It must not be forgotten that the preservation of the gall bladder in the presence of an obstructive lesion of the common duct or pancreas may be a life-saving procedure at a later time in that it preserves a viscus which is capable of being united to either the stomach, duodenum or jejunum, if the obstructive lesion is not obviated at the first operation.

It may be urged that there is a large element of error in the surgical results of these 3986 who were operated upon by some 53 operators. It is admitted by the statistician (Dr. Hotz) that there is an error of 3 to 5 per cent but we hope that mere figures will not be accepted as the final index as to mortality. For example, if the mortality is listed as 10 per cent, an error of 5 per cent either way will make a mortality of 9.5 per cent or 10.5 per cent. It is the trend in mortality that is important. Again, the senior surgeons undoubtedly, by reason of their reputation, got more of the patients who required secondary operations, with high mortalities, and this would in a measure offset some of the mortalities that might have occurred among the, let us say, junior group of surgeons.

When we analyze the cases of acute cholecystitis there emerges some rather interesting statistical data. The diagnosis of acute cholecystitis was made only by the pathologist upon the pathological material examined. 32 patients had cholecystostomy and no material was available for tissue diagnosis. The pathologist, on the material submitted to him, divided the cases of acute cholecystitis into the following categories: (1) acute, when the disease was confined entirely to the gall bladder and had not reached the stage of suppuration, gangrene or perforation; (2) purulent; (3) gangrene; (4) perforated, with abscess; (5) perforated, with peritonitis.

There were 574 patients with acute cholecystitis, 64 of whom died, with a mortality of 10.9 per cent. When an acute cholecystitis was treated by cholecystectomy, the mortality was 7.4 per cent; when choledochostomy was added to cholecystectomy, the mortality was 14.6 per cent. When cholecystostomy was performed the mortality rose to 28.8 per cent, and when combined with common duct drainage, the mortality was 33.3 per cent. (Table V).

The 574 cases of acute cholecystitis were operated upon by 31 surgeons. Acute cholecystitis constituted 14.5 per cent of the total series and 36 per cent of the acute cases were pathologically "acute cholecystitis" and 64 per cent severe acute cholecystitis—suppuration, gangrene and perforation. 69 of the 574 cases had proved perforations with peritonitis and a mortality of 26.1 per cent. That the 69 cases of proved perforations had adequate time to localize may be presumed from the fact that the average pre-operative duration of illness was 8 days. 76 per cent of the acute gall bladders had a definite history of previous acute attacks, together with definite pathological evidence of a previous chronic inflammation.

TABLE VI

A CLASSIFICATION OF CASES WITH PERFORATION ON THE EXTENT OF THE ASSOCIATED PERITONITIS

Pathology	No. of Cases	Per Cent Mortality
Perforated with abscess (localized) ..	16	0.0
Perforated peritonitis (local and general)	46	30.5
Perforated—peritonitis and acute pancreatitis	7	71.4
Total acute perforation	69	26.1

In the acute cases under discussion the apparent clinical course was progressive in 57 per cent, static in 31 per cent and remissive in 12 per cent. In 93 cases in which delayed operation was practised a higher mortality was obtained, namely 17.6 per cent. The penalty for delayed operation in acute cholecystitis was a 250 per cent increase in mortality. It would be unfair to let this figure remain alone. It is evident that there is no such thing as an emergency operation in acute cholecystitis. If we consider an emergency operation as an operation performed within 6 hours of admission of the patient to the hospital, the mortality was 15.6 per cent, but if these patients could be prepared for from 6 to 24 hours the mortality was reduced to 7.4 per cent, and this mortality was not improved thereafter by further pre-operative treatment, as operation after 24 to 48 hours had a mortality of 10.3 per cent, while operation thereafter, from 2 to 24 days, had a mortality of 17.6 per cent.

A rather difficult problem to evaluate is the duration of the present illness. The patients that gave a history of being operated upon within 48 hours after the onset had a mortality of 15.1 per cent, which is practically the same as those patients operated upon within 6 hours after their admission to the hospital.

TABLE VII

An Analysis of the Clinical Course of Disease in 316 Cases Observed in the Hospital for Eighteen Hours or More

Apparent Clinical Course of Disease	No. Cases	Per Cent Mortality	Per Cent of Total
Progressive	180	57	19.3
Static	100	31	7.0
Remissive	36	12	0.0

Operation upon patients with a history of an illness of from 2 to 4 days gave a mortality of 5.9 per cent; those that had their illness between 4 and 7 days, the mortality was 7.7 per cent; those that had their illness over 7 days, the mortality was 16.7 per cent. These mortalities of 15.1, 5.9, and 7.7 per cent, and 16.7 per cent, based upon the history of the duration of illness would seem to suggest a policy of delaying surgical intervention. This would be an erroneous interpretation, for of the 81 patients operated upon with 48 hours duration and with a mortality of 15.1 per cent, 56.8 per cent had grave complications and constituted the group with perforation, peritonitis and pancreatitis. Tables VI and IX).

TABLE VIII

The Mortality and Morbidity in Acute Cholecystitis In Relation to the Length of Preoperative Hospitalization

Duration of Observation Period	No. of Cases	Per Cent Perforated	Per Cent Mortality
0-6 hours	128	10.0	15.6
6-24 hours	297	13.1	7.4
24-48 hours	56	8.6	10.35
2-24 days	93	12.8	17.60
Total	574	12.1	10.97

TABLE IX

A Comparison of the Complications, Perforations, Mortality and Morbidity Encountered in 514 Cases in Which the Duration of the Present Illness Was Known

Duration of the Immediate Illness	No. of Cases	Per Cent Complicated	Per Cent Perforated	Per Cent Mortality
Up to 48 hours	81	56.8	14.8	15.1
2-4 days	137	67.2	6.0	5.9
4-7 days	104	67.0	12.3	7.7
7 or more days	192	63.6	17.2	16.7
Totals	514	64.0	12.4	10.97

The factor of jaundice and evidence of previous gall bladder disease was strikingly indicated in this series. There was a definite history of jaundice in 101 of the 574 cases, approximately 17.6 per cent. This group had a mortality of 15.8 per cent, while jaundice was present at the time surgery was performed on 155 of the 574—27 per cent,—with a mortality of 20.6 per cent. (Table X).

TABLE X

Jaundice		
(1) Definite history of jaundice (past)	101	15.80%
(2) Jaundice at time of surgery	155	20.60%

There is a cycle in acute gall bladder disease. In our study of 574 pathologically determined acute cholecystitis cases, we found that the mortality was directly proportional to whether the attack of pain was the first attack or whether there had been a previous history of cholecystitis with acute attacks. The patients with any type of acute cholecystitis—acute, purulent, gangrenous or perforated,—with a history of a previous acute attack, or with a definite history of chronic cholecystitis had a 100 per cent increase in mortality over the patients without such a history. (Table XI).

TABLE XI

THE CYCLE OF ACUTE GALL BLADDER DISEASE

(As Seen in 574 Pathologically Acute Gall Bladders)

Clinical Course	Single Acute Attack—No Definite History of Previous Cholecystitis			
Pathological Equivalent	Acute	Purulent	Gangrenous	Perforated
No. of cases in each group.	51	25	42	23
Mortality per cent	3.9	4.0	4.8	26.
Clinical Course	History of 1 or More Acute Attacks or a History of Chronic Cholecystitis			
Pathological Equivalent	Acute or Chronic	Purulent	Gangrenous	Perforated
No. of cases in each group.	155	92	108	46
Mortality Per cent	6.4	10.7	8.3	33.7

Many years ago in analyzing the mortality after gall bladder surgery we were surprised and impressed with a series of mortalities which could not be explained upon any of the accepted mortality designations, such as hemorrhage, shock, pneumonia, peritonitis. From the clinical point of view there were three definite syndromes that occasionally intervened after operation. At that time the impression prevailed that the syndromes were somehow contingent upon an associated hepatic insufficiency or hepatic exhaustion. Increasing experience suggested that this interpretation was justified. In a contribution in 1931[3] we definitely employed for the first time the title "liver deaths" in surgery of the gall bladder. We hold to the opinion that "liver deaths" are a distinct clinical entity. We suggested and still believe that the following classification is correct:

1. Liver deaths associated with hyperpyrexia and coma—a rapidly developing lethargy, stupor and coma. Death terminates the picture in from 18 to 36 hours.

2. Liver deaths in the presence of a constantly diminishing jaundice—slowly developing stupor and coma; final clinical picture similar to "cholemia death" from cirrhosis of the liver.

3. Liver deaths associated with some unrelated kidney disease—anuria is a factor in the terminal picture. 48 hours after operation there is a clinical picture not dissimilar to shock, with cold, clammy skin; failure in water elimination, and a marked rise in non-protein nitrogen[4].

In a study of 574 personal cases[1] it was found that there was a general mortality of 7 per cent with 8 so-called liver deaths, giving a mortality for liver deaths of 1.4 per cent of the total number of patients operated upon. However, in the analysis of the total mortality, liver deaths accounted for 20 per cent of the deaths. The liver, in chronic states of infection and toxemia, acts very much as a Berkefield filter. In infectious disease of the external biliary apparatus the liver is obviously called upon to exercise both a detoxifying and a bacteriolytic function. The net result is a varying degree—both qualitative and quantitative—of liver damage. If it were not for the remarkable regenerative function of the liver few individuals could survive for any length of time the continuous assault of the by-products of infection of the gall bladder and external biliary system. In chronic invalidism due to biliary infection there comes a time in point of years and tissue resistance when the previously exercised function of immunity begins to fail with the development of widespread general and remote symptoms. Cases of so-called liver death or cases with the hepaticorenal syndrome exhibit the same pathological process in both organs except that the intrinsic changes in liver tissue always precede the manifestations in the kidney. If and when the patients die promptly from hyperpyrexia and coma, the liver will exhibit definite evidence of degeneration of hepatic parenchyma. If these patients survive long enough they will show also at postmortem the same typical changes in the renal parenchyma.

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Deep Infections of the Neck*

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TO KNOW THE fundamental principles of deep infections of the neck one should have a thorough knowledge of the fascial planes and their compartments. These fascial planes have been minutely described by Mosher[1], Barnhill[2], Furstenburg[3], Hall[4], Grodinsky[5], Blassingame[6], Lore[7], Iglauer[8] and others, and for those interested, these articles should be read in detail. Recently, however, there has been a tendency by some authors to split these fascial planes into two or more layers, subdividing the various compartments. For instance, Pons-Tortella and Broggi-Valles[9] classify the spaces of the neck as six main divisions, and then these divisions are further divided into fourteen subdivisions.

MacEwen and Scheldrup[10] in reviewing the anatomies of the neck speak of the muscular, visceral and fasciae compartments, and the major areolar spaces and major vessels.

Weintraub[11] in his summary on "A New Interpretation of Connective Tissues of the Neck" states: "The traditional description of the neck connective tissue as "cervical fascia" and "carotid sheath" is shown to be inadequate and in part erroneous. A systematized division of the neck connective tissues into nerve-vessel supporting connective tissue (nerve-vessel bundle and nerve-vessel sheath), periorgan connective tissue, and areolar tissue spaces is introduced, with both anatomic and functional significances. Several new spaces in the neck are described including the very important peripharyngeal spaces."

With all this, it seems to me, the anatomy of the subject is made far more complicated than it actually is. Anatomically, these authors may be right, but from a clinical and surgical point of view these fascial planes are very much fused and confused when dealing with the evacuation of pus deep in the neck, and for that reason we should have a general anatomical knowledge of the fascial planes and spaces, and try to find them surgically, when dealing with deep infections. As Mosher so beautifully states: "The cervical fasciae are both very real and very unreal. Admitting, of course, that they can be divided as they are in the anatomies, there is a much simpler and more practical way of considering them. The purpose of the fasciae is to keep everything in the neck snugly in its alloted place. To me, the fasciae are but prolongations or off-shoots of the carotid sheath. This conception of the carotid sheath and the cervical fasciae makes the sheath the core of the soft structures of the neck. Such in surgery it is. In other words, in hunting for pus deep in the neck, find the carotid sheath and follow it. It is the natural highway for pus and for the surgeon in pursuit of pus."

THE ANATOMY AS APPLIED TO DEEP INFECTION OF THE NECK: The anatomy of this area has been very well described by the various authors mentioned before. We should be familiar with the landmarks on the side of the neck, for instance—when we speak of the sternocleidomastoid muscle, we associate it with the anterior or posterior approach to pus deep in the neck and also that it overlies the deep vessels; the angle of the jaw, as the limits of the pharyngomaxillary space, and where the submental area meets the front of the neck, the tip of the hyoid bone and its associated important vessels, and the posterior border of the thyroid cartilage, where is the greatest point of tenderness in infections of the buccopharyngeal space.

PATHS OF INFECTION FOR ABSCESSES OF THE NECK: Abscesses of the neck arise chiefly from cervical lymph glands in which are retained infective agents from a regional inflammatory process. The further extension of the pus following along certain definite channels, i.e., the connective tissue planes of the cervical fascia, and there are four usual connective paths along which an inflammatory process may extend:

1. Superficial.
2. Pretracheal.

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3. Buccopharyngeal
4. Prevertebral.

DIAGNOSIS: Accurate history is of the utmost importance, for only by obtaining this can we expect to find the portal of entry of the infection, and with this information we are in a better position to anticipate its course. Infections may originate from teeth or tonsils, before, during, or after their removal; the parotid gland, tongue, retropharyngeal abscess, infected glands; thrombophlebitis following infections about the tonsils, and trauma in one way or other to the cervical esophagus. Abscess of any one of these spaces may break into others.

LYMPHADENITIS: We have all seen this type of infection following the acute exanthemata or secondary to some infection of the upper respiratory tract. Those of you who are connected with isolation hospitals see a large number during the course of a year. This type of infection seldom causes deep infection of the neck.

LUDWIG'S: History of injury from carious teeth to the mucous membrane of the floor of the mouth permitting the entrance of pathogenic organisms, such as streptococci, staphylococci and anerobic bacteria. We should familiarize ourselves with the boundaries of certain spaces or pockets. This infection starts in the floor of the mouth which is formed by the mylohyoid muscle, laterally by the body of the mandible, posteriorally by the hyoid bone, and spreads by fascial planes to the submental and submaxillary regions and eventually to the pharyngomaxillary space, then downward to the mediastinum, ultimately causing death either from suffocation due to edema of the larynx or from mediastinitis. With the history of injury to the mucous membrane, with constitutional symptoms of chills, rise in temperature, the individual becomes acutely ill. He has pain in the floor of the mouth, swallowing becomes painful and difficult. The tongue becomes swollen, causing respirations to be labored from crowding backward of the base of the tongue and epiglottis. If only one side is involved, the mucous membrane of the floor of the mouth is pushed upward and backward to the opposite side. If both sides are affected the tongue is pushed upward and backward. There is marked tenderness on palpation, and a hard mass is felt in the floor of the mouth and under the chin. This swelling does not have any point of fluctuation. This condition should not be confused by what is known as woody phlegmon of the neck. Woody phlegmon of the neck is a chronic proliferation and surgery is only indicated for the relief of respiratory obstruction.

ABSCESS BASE OF TONGUE: Begins somewhat like Ludwig's, but not as acutely. We have a history of injury with symptoms of infection. The patient has considerable pain in attempting to protrude his tongue, which is thick and swollen posteriorally, interfering considerably with phonation. This swelling increases and causes marked difficulty in swallowing and respiration. Unless the abscess is evacuated, death quickly follows from edema of the glottis.

RETROPHARYNGEAL OF PERIPHARYNGEAL ABSCESS: This is more common in children under three years of age and the infection invades these spaces by veins or lymphatic drainage, the latter being more frequent, due to breaking down of the glands of Henle and Gillette. These usually follow acute or chronic infection from the nose or nasopharynx or may follow any of the acute fevers. Retropharyngeal abscess may involve the fascia between the visceral and alar fascia, or the space between the alar and prevertebral fascia (Proetz[12]). Infection is apt to remain localized at the site of origin, but may spread downwards through the neck into the superior mediastinum. It may also break into the pharyngomaxillary space, causing possible erosion of the vessels and it may extend into the submandibular space resembling Ludwig's. A diagnostic point, however, is that Ludwig's seldom occurs in children. The onset may be sudden, with temperature, chills, and fever, with pain on swallowing and talking, bulging of the lateral or pharyngeal wall, the respirations becoming slow, accompanied by stridor. Swallowing becomes difficult and with the regurgitation of food in attempting to swallow, the patient naturally refuses all nourishment. X-ray examination is diagnostic.

In reviewing a series of 162 cases, Richards[13] "strongly advocates a lateral roentgenogram of the neck for diagnostic purposes, except in cases of dire urgency." These lateral roentgenograms of the neck show quite definitely the bulging forward of the posterior pharyngeal wall and diagnosis can be made almost by that alone. Inspection and palpation have both failed at times to establish a positive diagnosis. Here the retropharyngeal abscess and the anatomic site of a peripharyngeal space of Weintraub seems to be the same. Weintraub terms a retropharyngeal space as a peripharyngeal space and he describes a right and a left peripharyngeal space separated by a septum. These peripharyngeal or retropharyngeal abscesses arise from the breaking down of an infected lymph note and, if the infection in this space extends laterally, it may occasionally erode into the internal carotid artery.

PHARYNGOMAXILLARY SPACE — PARAPHARYNGEAL SPACE: This space is bounded above by the base of the skull, internally by the superior constrictor muscle of the pharynx externally by the internal pterygoid muscle and ramus of the mandible, and the inner prolongation of the parotid gland, and extends from the base of the skull downward to about the level of the angle of the jaw. In the posterior compartment of this space, we have the carotid vessels and pus in this area can readily find its way down along the 'Lincoln Highway' of the neck.

Infection in this fossa may be from the parotid or from the submaxillary gland. An abscess of the parotid gland usually ruptures internally and not externally. Injuries and infections of the pharynx, as for instance, tonsils, peritonsillar abscess which has broken through into the space, or by lymphatic drainage, or as a result of faulty local anesthesia. Diagnosis is easily arrived at with the history of infection or injury to the lateral pharynx, of sudden onset, accompanied with chill, rapid rise in temperature and on examination of the pharynx, we find a swelling of the lateral pharyngeal wall, swelling of the uvula, and the soft palate pushed to the opposite side, accompanied by difficulty or inability to open the mouth, due to trismus of the internal pterygoid. A diagnostic point between this condition and a peritonsillar abscess is—a patient with a peritonsillar abscess will open his mouth gradually if persisted with, but it does give him pain—a patient with a parapharyngeal or pharyngomaxillary fossa infection cannot open his mouth on account of the trismus of the internal pterygoid muscle.

There have been a number of instances and cases reported by F. W. White and L. Hubert[14] of hemorrhage into the parapharyngeal space, due to erosion of the large vessels, and they call attention to the fact that these swellings may frequently be diagnosed as peritonsillar or latral pharyngeal abscess and incised. I recall a little patient I had seen in consultation, who had a number of hemorrhages following a peritonsillar abscess. Unfortunately a fatal hemorrhage occurred while the attending physician was attempting to remove a post-nasal pack. We should know the type of the causative organism in these infections of the pharyngomaxillary fossa. A frequent active hemorrhage following peritonsillar abscess does not require much local treatment, but bold external procedures. Ill-placed incisions in the lateral pharyngeal wall may lead to fatal hemorrhage.

SEPTIC THROMBOPHLEBITIS: May follow any severe throat infection or come from a tonsillitis or from a tonsillar or peritonsillar abscess. The persistence of a septic temperature following a history of severe throat infection should lead one to consider a possible thrombosis of a vein leading from this area. Positive blood cultures may give the same clinical picture as a lateral sinus thrombosis.

PERIESOPHAGEAL—BUCCOPHARYNGEAL: The two layers of pretracheal fascia which surround the thyroid gland unite at the posterior border of this gland and pass behind the pharynx and esophagus and are known as the buccopharyngeal fascia. This fascial plane communicates with the posterior mediastinum. Mosher and Jackson have called attention to a weak point in the esophagus where the inferior constrictor fibers split, which permits a herniation. This is the weakest spot just behind the cricoid cartilage. It is in this area that most of the infections, either by trauma or perforation, take place, causing the rapid spreading upwards and downwards in the buccopharyngeal space. Unless we diagnose this condition early and have the courage to drain this area immediately, death will usually follow, although we do read occasionally of cases in which drainage has been made successfully from within. Infection in this space may result from sharp pointed foreign bodies that have perforated the esophagus by their presence, or by the attempt to remove such foreign bodies; external injury, as stab wounds or bullet wounds. Infection of this fossa may also be the result of drainage from the pharyngomaxillary fossa by gravitation. When we have a history of trauma with dysphagia, accompanied by fever, pain and tenderness with swelling at the root of the neck, with emphysema or crepitation on palpation, we should immediately have a lateral roentgenogram taken. The lateral picture of the neck will show a bulging forward of the posterior wall, with the presence of air in the spaces; this is an important early diagnostic sign. We must not be misled by a drop in temperature, with a high leucocyte count. Another diagnostic point is the tender spot over the posterior border of the thyroid gland; swelling, with difficulty in swallowing, and with signs of emphysema,—the only hope of saving the patient is by a cervical drainage of this space and possibly a cervical mediastinotomy.

TREATMENT

In treatment of pus deep in the neck, we can speak of it individually and collectively. As we know, pus may form in any one of the spaces mentioned above. Individual treatment of each requires a somewhat different operative technique. Very deep pus in the neck is a case of surgery. Local anesthesia is preferable. General anesthesia should never be employed in a dyspneic patient unless one is ready to do an immediate tracheotomy or bronchoscopy. Generally speaking, the incision in the upper part of the neck that I have had the most gratifying results with is that of Mosher's "T" submaxillary approach. By this approach, after going through the skin, superficial fascia, and ligating the facial vein, the submaxillary gland is retracted upward and inserting the finger within this fossa one can readily approach pus on the side of the tongue—one can also find the carotid sheath, pass upwards into the pharyngomaxillary fossa and the base of the skull. By incising the floor of the submaxillary fossa, the entire tongue and floor of the mouth can be readily reached. With this approach, it is amazing the enormous space which one has to attack pus within the side of the neck. Do not permit yourself to operate through small incisions in the neck.

LYMPHADENITIS: Abscess from infected superficial lymph nodes as we may find in the acute fevers, calls for opening of a simple abscess. Bezold's abscess is usually the result of infected mastoid cells that have eroded through the bone and opened in the digastric fossae. The treatment is to clean out the mastoid cells and open the neck by the continuation of the mastoid incision.

RETROPHARYNGEAL ABSCESS: Requires early and adequate drainage, either through the mouth or externally, depending on the condition of the patient and location of the abscess. As this condition usually occurs in children, and if the drainage is made through the mouth, much care should be taken in the evacuation of this abscess. The patient should be placed in the Rose position, a suction apparatus should be at hand, as it is of great value in preventing aspiration of the pus into the lung. A general anesthesia is contraindicated. The mouth should only be opened sufficiently to permit the opening of the abscess. It has so happened that in using a mouth-gag and forcibly opening the child's mouth, this was sufficient to cut off respiration and the patient died before any surgery was done. With sudden severe hemorrhage following the opening of the retropharyngeal abscess, ligation of the carotid is the only way to control it. With the external method — the incision is made along the anterior border of the sternomastoid muscle, similar to opening of a buccopharyngeal abscess.

LUDWIG'S: The swelling in the structure of the floor of the mouth is sometimes so sudden that the root of the tongue is pushed back over the glottis. Impaired respiration from mechanical reasons causing marked dyspnea, if not promptly relieved by tracheotomy, the patient may die of suffocation. Only early and prompt treatment will be of benefit with the sublingual area widely opened up. Peroxide has been used in the after treatment for liberation of oxygen, which is unfavorable to any anerobic organism. Adequate and proper lingual drainage should be instituted as soon as diagnosis is made. If this is a true Ludwig's, with infection on the floor of the mouth, an incision from the hyoid bone to the chin going through the floor of the mouth is radical, but essential treatment. This incision should be large enough to admit a finger, or two drainage tubes, and must be done early before edema of the larynx has taken place or before the infection has spread to adjoining spaces. Here again, as I have stated, infections in the floor of the mouth can be reached through the submaxillary approach and drained through that area. Unless in some cases, where the abscess points near the surface, inside the mouth, the choice of operation is external incision, over the area of greatest tenderness.

TREATMENT OF ABSCESS OF TONGUE: Patients with infection of the tissues in the floor of the mouth deep to the submaxillary gland are as a rule toxic and extremely ill, the infection spreading so rapidly that edema of the glottis will quickly ensue from pressure of the tongue against the larynx. The diagnosis presents no difficulty. The swelling is stony hard and fluctuation is seldom obtained, due to the deep cervical fascia presenting a dense barrier to the suppuration. By using Mosher's submaxillary approach, the submaxillary gland is elevated, and with the incision of the bed of the submaxillary fossa at right angles to its fibers, the pus is readily found and evacuated and the cavity drained.

PERITONSILLAR ABSCESS: This should be incised above the tonsil and the line of incision should be toward the median line on a level with the base of the uvula. This opening is enlarged by forceps after the method of Hilton. Occasionally from erosion of vessels in the pharyngomaxillary space, the pressure of the escaping blood is sufficient to force the neighboring tissues inward and a mass forms on the lateral wall of the pharynx and extends upwards to the soft palate, simulating a peritonsillar abscess. These swellings are frequently diagnosed as peritonsillar or lateral pharyngeal abscesses and incised. If this happens, ligation of the carotid artery should be done immediately.

SEPTIC THROMBOPHLEBITIS: The treatment calls for opening of infected spaces, together with exposure and possibly resection of the internal jugular vein and, if necessary, all communicating veins, if they are found to be thrombosed. This condition is one of the most serious. It is usually a complication of tonsillitis or peritonsillar abscess. The persistence of a septic temperature following any throat infection should lead one to suspect a thrombosis of the internal jugular vein.

PHARYNGOMAXILLARY ABSCESS: Surgical approach to this area could be internal or external. Internally, in the absence of the tonsil, we would go through the mucous membrane, the pharyngeal aponeurosis, superior constrictor muscle, and the buccopharyngeal fascia. Externally, the incision can be made parallel to the lower border of the mandible. The posterior limit of this incision is a point midway between the tip of the mastoid process and the angle of the jaw and extends anteriorally beyond the submaxillary gland. After the superior layer of the deep cervical fascia has been incised, the remainder of the operation is made by means of blunt dissection. However, with Mosher's "T" incision in his submaxillary approach, you can reach pus in the pharyngomaxillary fossae, side of the tongue, floor of the mouth, region of the tonsil, and by extending the vertical line of the incision downward along the anterior border of the sternomastoid muscle, infection may also be reached in the carotid sheath.

PERIESOPHAGEAL ABSCESS: Hunt[15] divides the periesophageal abscess into three groups:

1. Due to foreign bodies.
2. Due to perforation by instrumentation.
3. Due to spontaneous rupture.

I have never seen an infection of the neck from spontaneous rupture of the cervical esophagus, but have seen it in the thoracic esophagus. We have all seen cases of foreign bodies lodged in the cervical esophagus with perforation. Recently, a patient come under my observation who had swallowed one-half the vertebra of a lamb, needless to say a perforation by pressure due to the size of the foreign body had taken place. We have also seen many cases in which perforation has been the result of instrumentation.

Once a diagnosis of esophageal perforation is reasonably certain, external drainage is imperative, because the danger of the performance of such a procedure is inconsequential as compared with the dangers of progression of the mediastinal infection.

Retropharyngeal abscesses resulting from suppurative lymphadenitis can remain localized for relatively long periods of time, but as emphasized by Pearce[16], if neglected, may extend through the retrovisceral space into the mediastinum.

The roentgenologic findings are of vast importance in the diagnosis of periesophageal abscess infections. As emphasized above, in perforations of the posterior wall of the pharynx and the esophagus, the visualization of air in the retrovisceral space is of diagnostic significance. Because of extension into the retrovisceral space the trachea is usually displaced anteriorally. Widening of the mediastinal shadow in an anterior-posterior roentgenogram is of diagnostic importance.

Let me state at this point that an esophageal examination is by no means an easy procedure. I still approach it with some degree of trepidation and I am always thankful when the procedure is over with. I recall one case in which the patient developed a virulent Vincent's infection of the neck, which was fatal, notwithstanding immediate operation. This brings up a point of the utmost importance, namely—accurate history, for it is only by obtaining this, that we can attack or anticipate the course of infection. Where the history of trauma, pain, swelling, crepitation, chills, high leucocyte count, tender spot over the posterior border of the thyroid gland (a diagnostic point I brought out a few years ago—Orton[17]) difficulty in swallowing, with evidence by roentgenograms of emphysema, we should have courage to go in and operate by external methods. Hesitation means failure and I most heartily agree with Dr. Mosher, who states "When in doubt as to pus in the neck—operate." Watchful waiting and hoping that something will happen is very poor judgment. Usually something does happen.

The clinical manifestations of esophageal perforation are quite characteristic. The occurrence of spontaneous pain following esophageal instrumentation or food ingestion, aggravated by swallowing is usually limited to a segment of the esophagus. Edema and emphysema occur early. Dyspnea and hiccough may be troublesome factors due to irritation of the phrenic nerve. Whereas emphysema is the result of introduction of air through the perforation, it may also be due to gas-producing micro-organisms. In gross perforations of the esophagus there occurs, in addition to emphysema, clinical manifestations of a rapidly progressive contamination and infection of the retrovisceral cervical space or the mediastinum. The clinical manifestations are largely those of systemic involvement and consist of hyperpyrexia, extreme prostration, marked leucocytosis with a disproportionate increase in the polymorphonuclear leucocyte count, and rapid pulse, in other words, the manifestations of a profound toxemia.

The buccopharyngeal space conveys infection from perforation or periesophageal abscess directly to the mediastinum. In approaching the buccopharyngeal fascia, which is the usual site of periesophageal abscess, after the incision is made parallel to the anterior border of the sternomastoid muscle, the great vessels and this muscle are retracted outward; while the trachea and thyroid gland are retracted inward, remembering that the two layers of pretracheal fascia which surround the thyroid gland unite at the posterior surface of the gland and pass behind the pharynx and esophagus, as the buccopharyngeal fascia. This space is entered either by finger or hemostat. With infections in this area, we are likely to find the fascia rather dense.

MEDIASTINITIS

Mediastinitis following deep infection in the neck may originate from any of the following sources: Ludwig's, perforation of cervical esophagus, suppuration, lymphadenitis, retropharyngeal and peritonsillar abscess, infection following tracheotomy or operations on the larynx or thyroid gland. There are still other conditions in the thorax that might cause a mediastinitis, but I shall leave them for the thoracic surgeon. The infection follows well defined fascial planes, and the management requires a surgical attack and drainage here as in any other space.

If it becomes necessary to do a cervical mediastinotomy, it is well to remember that the esophagus is in close relationship with the pleura high up on the left side, whereas on the right side, the esophagus and pleura come in contact at a lower level. Therefore, we run less risk of injury to the pleura on the right side.

Cervical mediastinotomy: (1) Right side better approach, as the pleura on that side is far away from the esophagus. (2) Pleura on the left side much nearer, therefore, greater danger. (3) Local anesthesia along border sternomastoid. (4) Trachea exposed, then esophagus. (5) Blunt dissection downward to posterior mediastinum. (6) Drainage tube—Trendelenburg position. (7) Gall bladder drainage tube and suction.

I wish to call attention to the possibility of trauma to one or both recurrent laryngeal nerves from deep infection in this area. The late Edward F. Ziegelman[18], in his article on laryngeal nerves, said, "Most of these lesions are due to trauma of some kind incurred during surgical procedures on the thyroid gland. Judd, New and Mann demonstrated experimentally the effect of trauma on this nerve. Their conclusions seem to prove that stretching does not impair the function of the nerve. Ligation and severing, they found, result in permanent paralysis, while pinching causes temporary paralysis of the corresponding portion of the cord."

SUMMARY

The laryngologists usually find deep suppuration in early stages, and are able to trace the course and developments of these infections and to suggest or carry out final treatment. We should familiarize ourselves with the plainer anatomy of the neck, leaving to those who are interested the discussions of the fascial planes in detail. We have taken up the various spaces that become infected and the symptoms, diagnosis, treatment and their possible termination. With infection downward of the buccopharyngeal fascia, mediastinitis may follow.

Adequate drainage is essential for pus deep in the neck.

Hunt[15] believes it may be better surgery to deliberately open and pack off any known esophageal rupture before an abscess has developed. If this procedure seems too radical, a very early external operation should be done with the development of any clinical signs of periesophageal abscess.

Cervical infections may extend to mediastinum along definite fascial pathways.

The prompt institution of appropriate therapy of the underlying infection will prevent extension to the mediasinum.

A feeding tube should be placed in the esophagus of any known or suspected perforation of the esophagus from whatever cause.

Intraesophageal treatment should be used only in the most selected cases.

History of chills and negative blood culture; it may not be necessary to ligate neighboring veins in thrombophelitis.

Abductor paralysis should not be overlooked as a result of deep infection low in the neck.

Do not be misled by falling temperature and a feeling of well-being that the patient is recovering. With tender spot on side of the neck persisting, it is but the calm before the storm.

A high leucocyte count, 16,000 to 26,000 is a significant point.

Cervical mediastinotomy may be required in addition to free drainage.

Perforation of the hypopharynx, with persistent tender spot, and a high leucocyte count, have the courage to go in and drain.

Roentgenograms of the neck are of the utmost importance, showing swelling of esophagus, displacement of trachea, and bulging forward of the posterior pharyngeal wall.

Delay in early and courageous treatment of deep infection of the neck may prove disastrous.

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Disorders of the Bladder and Urethra in Women*

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THE FEMALE BLADDER appears to be more susceptible than the male bladder to functional disturbances. This is difficult to explain in view of the fact that when it is normal, it seems considerably less responsive to the call of nature. The female bladder is more of a floating viscus; the male bladder is better supported by the perineum and is anchored in position more firmly by the prostate and seminal vesicles. The brevity of the female urethra unquestionably plays a role in the susceptibility of the bladder to infection, and the pelvic organs may be a factor in bladder disturbances. On the other hand, in the male the intimate relationship between the prostate and the bladder is responsible for a type of infection from which the female bladder is exempt.

In man, disorders of the bladder are usually easily diagnosed; in a very large proportion of cases it is possible to find an adequate explanation for the symptoms of which the patient complains. In women, annoying and persistent disturbances of urination for which no adequate cause is easily demonstrable are frequently encountered. It is with the hope of classifying these disturbances and outlining a rational procedure to follow in the detection of the underlying pathology that this paper has been written.

Investigation of this problem, as with all problems of diagnosis, resolves itself into a consideration of symptoms,—the abnormalities of sensation and function of which the patient complains,—and a consideration of signs,—those evidences of disease which the investigator can detect. In his endeavor to get a clear understanding of the symptoms, the physician must elicit all of those facts in the patient's past history which may have a bearing on the present situation. As a matter of fact, every item of the patient's history may be of importance in this connection. The existence of a state of emotional imbalance may explain a great deal. Of particular significance is the history of urinary infections in the past.

The exact date of the first appearance of urinary symptoms and the type of bladder which the patient has already had—whether irritable or of a large capacity—should be ascertained. A history of renal pain is important and should be definitely determined. The history of the genital system should be detailed enough to give the number of pregnancies, if any, its behavior during menstruation, the presence of vaginal discharge.

When the background has been established, it is time to consider the symptoms of which the patient complains and their mode of onset, whether sudden or gradual, whether they were preceded by an unusual event such as sudden exertion, a long automobile trip or exposure to cold or wet.

The symptoms themselves are of the greatest importance in establishing a presumptive diagnosis; they will be discussed briefly and their significance noted.

PAIN. The type and location of pain will influence one in the selection of investigative procedures. If pain is referred to the kidney or ureteral region, the possibility of ureteral stone or renal infection as the cause of bladder symptoms must be considered.

Pain in the suprapubic area has a different significance; its interpretation depends upon whether it is chronic or acute, dull and aching or sharp and knife-like. It depends also upon the time when the pain occurs, relative to the filling or emptying of the bladder; that which comes on as the bladder empties suggests the presence of a stone, a foreign body or an infected tumor.

Pain may be referred to the urethra, although the patient seldom recognizes it as originating in that structure. She can usually differentiate bladder pain and urethral pain; the latter is described as "low down", and may be vaguely referred to the outer genitalia. Such pain may be felt only during micturition, when it is referred to as a "burning" or "cutting" pain, or it may be present irrespective of the passage of urine. Pain of this type is often described as an itching, burning sensation; sometimes the patient says she feels as if there were sand in the urethra.

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A disturbance of the function of urination is perhaps the most common complaint. It is usually described as "frequent, painful urination" and is often accompanied by a strangury and a desire to void even after the bladder has been emptied. Let us split this symptom-complex into its component parts. Frequency alone, unaccompanied by pain or strangury, is often caused by the inability of the bladder to distend. This may be due to pressure upon the bladder from outside, as by a gravid uterus or a pelvic tumor. It may be due to localized or generalized rigidity of the bladder wall, or to areas of inflammation in the wall of the bladder. At times it is purely a reflex phenomenon; the hyperirritability of the bladder mucosa, especially of that portion which covers the trigone, allows the micturition reflex to be initiated before the bladder has filled to its normal capacity. Strangury and rapid recurrence of a desire to void are probably due to the same condition of hyperirritability.

Lack of urinary control may be simply an exaggeration of the last named condition; it may be due to the inability of the bladder to tolerate any urine at all. In other instances, incontinence is caused by a true weakening of the sphincter (the female bladder has but one), due rarely to over dilatation of the sphincter, more frequently to trauma sustained during childbirth. In another group of women, incontinence is the result of interference with the nerve supply to the sphincter. Conditions that may cause this are tabes dorsalis, spina bifida, multiple sclerosis.

Hematuria is a symptom as well as a sign, for not infrequently it is the patient's immediate and only complaint. If unaccompanied by other symptoms, the chances are great that it is due to neoplasm, either in the upper urinary tract or in the bladder. If accompanied by a rather sudden development of frequency and bladder irritability, it is more likely to be the result of an acute cystitis.

After the physician has obtained a clear and definite history of the patient's symptoms, the mode of their onset and the background upon which they have developed, he must look for physical abnormalities that may be present. It is at this point that many practitioners fail to take advantage of the means that are at their disposal. They treat the symptoms without learning the actual condition which causes these symptoms or immediately refer the patient to a urologist for cystoscopy. No one appreciates the value of cystoscopy more than I do; it is my custom to inspect the bladder by means of a small observation cystoscope in every woman who comes with a story of bladder disturbance. In perhaps 90%, this examination reveals nothing that would cause me to alter the treatment which I would have given had cystoscopy not been done. Its value is chiefly negative; it establishes the fact that there is no serious disease of the bladder. Incidentally, the lavage of the bladder and the passage of the instrument through the urethra have a therapeutic effect. Hematuria always demands cystoscopic examination.

The facts which the general practitioner can learn by his examination are sufficiently full and accurate to enable him to decide which patients need further investigation by methods not at his command, and in the other and larger group, give him enough evidence to make a diagnosis and to formulate a plan of treatment.

These facts cannot be learned by a hasty, slip-shod examination. A general physical examination is desirable; determination of the blood pressure should be made because hypertension often indicates chronic nephritis; chronic nephritis may be the cause of urinary disturbances, particularly nocturia. The kidneys should be palpated carefully to learn whether there is enlargement or tenderness. A pelvic examination should be made to rule out pelvic tumor, inflammatory lesions, induration of the bladder base. In this connection I wish to say that I have seen very few instances in which the bladder function has been disturbed by retroversion of the uterus; I have seen a number of patients who have had uterine suspension done for relief of bladder symptoms, who were not relieved by the operation. Cystocele, on the contrary, frequently requires operative treatment.

The urethral meatus is inspected for evidence of urethral discharge, carcinoma or caruncle. Incidentally, I believe that "caruncle of the urethra" is an overworked diagnosis. A caruncle may be painful, but I doubt if it ever causes disturbance of urination. When such disturbances exist in the presence of a caruncle, other causes will be found.

The next step is to obtain a catheter specimen of urine. In women, voided specimens are almost certain to be contaminated by their passage through the vulva. One need not be afraid of infectiong the bladder if certain precautions are observed. These precautions are three in number; they are (1) preliminary cleansing of the vulva, (2) sterilization of the catheter, (3) lavage of the bladder and urethra with a mild antiseptic solution before the catheter is removed. It is helpful to have an irrigator suspended above the patient; this may be filled with potassium permanganate 1-8000. The vulva is sponged with soap and water, then douched with potassium permanganate. A rubber catheter, 16F in size, is boiled for at least two minutes, lubricated with sterile surgical lubricant and inserted into the bladder. Unusual sensitivity of the urethra or the presence of a stricture, is noted. A specimen of urine is drawn, some of it being received in a sterile test tube. After the bladder is empty, potassium permanganate should be allowed to run in until the patient complains of feeling distended. By drawing off this fluid and measuring it, one determines the capacity of the bladder. The bladder may then be filled again and the patient allowed to void, or the urethra may be irrigated as the catheter is withdrawn.

The specimen of urine obtained by catheter should be tested at once as to its acidity; a strip of nitrazine paper is dipped into the urine, held in the air for a minute, and the resulting color change compared with the scale which comes with each tube of papers. This gives the hydrogen ion concentration of the urine; the lower readings are acid, the higher alkaline. One seldom finds a urine more acid than pH 5.0; 7.0 is neutral, 7.5-8.0 are the readings obtained in alkaline urines. The gross characteristics of the urine are noted; it should be tested for sugar and albumen, the specific gravity noted and the sediment examined for leucocytes, red blood cells and casts. The specimen in the sterile test tube may be studied for its bacteriology if laboratory facilities are available. By letting it stand in a warm place for twenty-four hours one can get an idea as to whether bacteria are present by the development of cloudiness. A better method, if one has no laboratory facilities, is to centrifuge a fresh specimen of urine, decant the supernatant urine, shake the sediment on to a slide, dry the smear and stain it with Gram's stain. The colon bacillus is Gram negative, staphylococci and streptococci are Gram positive. Although these results are not so satisfactory to the physician as those reported by a bacteriologist, they are not to be despised. Direct smears properly stained, in fact, may give more accurate information than cultures, for in the latter, particularly if transplanting is delayed, a rapidly growing organism may overgrow more important though less vigorous bacteria.

As a matter of fact, the physician whose examination we are now considering is not particularly concerned with the exact type of infection. He ought to know first, whether the urine is infected or sterile. If infected, and the organism is a coccus, he might use one form of therapy; if a bacillus, he would employ other types of treatment. He should know whether the urine is acid, as it customarily is when the colon bacillus is present, or persistently alkaline; the latter condition suggests the presence of one of the urea-splitting bacteria, such as some staphylococci or perhaps the proteus bacillus. In patients with alkaline urine, the presence of residual urine should be determined by catheterization after the patient has voided. The treatment in these situations may be quite different.

Our investigator has now acquired the following knowledge as to his patient's complaint: he knows the exact symptomatology; he knows whether the kidneys are enlarged or tender, whether the patient has had pain referable to the upper urinary tract. He knows whether the urethra is sensitive, whether the bladder capacity is abnormally small, whether the urine is infected or otherwise abnormal. Given these findings, he should be able to make a working diagnosis which will guide him as to further investigations and treatment. In discussing the various conditions encountered, I shall try to show the relation between the above mentioned facts and the actual pathology.

Disturbances of urination in women fall into two broad classes—those not associated with infection and those associated with infection. In the first category we usually find incontinence, which usually requires cystoscopic examination in order to ascertain the cause. In this connection, pelvic examination may furnish the clue by revealing a tumor which presses upon the bladder and prevents the closure of the sphincter. Such a case came to my attention recently; the urine was uninfected, cystoscopy was impossible because the beak of the instrument encountered a resistant mass as soon as it entered the bladder. Pelvic examination showed a large mass crowding down the bladder; at operation this proved to be an adenocystoma of the ovary. Removal of the pelvic organs completely cured the urinary incontinence.

If the incontinence is associated with partial retention, one should suspect a neurogenic disturbance. The condition of the central nervous system may be determined by study of the reflexes and by testing the sensation of the skin and mucous membrane of the vulva. In multiple sclerosis and in tabes, there are likely to be disturbances of the innervation of the lower limbs; in spina bifida occulta, the sensory reactions of the vulval surface will probably be abnormal. The internal pudendal nerve, which motivates the sphincter urethrae, also supplies the skin of the perineum with sensory fibres.

Frequent urination, when the urine is uninfected, may be due to a loss of elasticity of the bladder wall. This condition is encountered most frequently in cases of so-called "Hunner ulcer," (submucous fibrosis or interstitial cystitis). The urine is generally normal, although a few red blood cells may be found, and sterile. The capacity of the bladder may be greatly reduced; in severe cases, the accumulation of one or two ounces causes suprapubic pain and an intolerable desire to void. The lesion consists of from one to several areas in which there is a deposit of fibrous tissue in the submucosa, binding the mucous membrane to the muscular coat. As the bladder distends, the mucosa in these areas is tightly stretched; if the distension is increased, bleeding fissures appear in the mucosa. Although this process is undoubtedly infectious in the beginning, the urine is seldom infected. The original infection is probably blood-borne and lodges in the bladder wall without infecting the urine. The diagnosis of this condition is easily made; it should be suspected when, in spite of uninfected urine, the bladder capacity is limited to a few ounces. The condition is one which calls for cystoscopic examination; it is difficult to relieve and calls for all the tricks that the experienced urologist knows. Among the methods of treatment which have been employed, the simplest consists in dilatation of the bladder at regular, frequent intervals. The dilatation must be carried to the point of tolerance; not infrequently slight bleeding will follow the stretching of the bladder, due to the cracking of the mucosa over the affected areas. Another method employs the electrocoagulating current; through the cystoscope the areas of fibrosis, which are recognized by their deep pink color, are electrocoagulated by means of multiple contacts. In this way, the mucosa over the affected area is destroyed; the "second growth" of mucosa seems to be tougher and less sensitive than the original mucosa.

In his original papers describing this condition, Guy Hunner advised excision of the affected portions of the bladder. Later experiences showed that, although the immediate results were good, the condition was likely to recur in other areas. I operated upon one patient with this condition; the section of the bladder wall which was excised showed a dense white layer of fibrous tissue one-half a centimeter in thickness between the mucosa and the muscular layer. The etiology of this condition is unknown; it seems to develop gradually and has been attributed to a blood stream infection by the streptococcus. Upon the assumption that this is the case, urologists have used sulfanilamide with some measure of success.

The above mentioned forms of treatment have been based upon an attempt to destroy the lesion itself; other methods aim to relieve the pain by interruption of the sensory nerve impulses arising in the bladder. Excision of the presacral nerve has been done by Learmonth at the Mayo Clinic with good results in perhaps fifty per cent of a small series of cases. Schroeder, who has relieved the pain of tuberculous cystitis by resection of the presacral nerve and eversion of the fibers communicating with the parasacral ganglia, says that this method is of no value in submucous fibrosis.

Neoplasm of the bladder may be uninfected in its early stages. In this event, it will cause no symptoms except hematuria. As has been already stated, blood in the urine, particularly if unaccompanied by other symptoms, absolutely demands cystoscopy.

Chronic urethritis may occur with an apparently uninfected urine, although one often finds that there has been a preceding infection or that there is a bacilluria without the presence of pus cells. The urine may be grossly clear and it is only upon culture that the presence of bacteria is discovered. Examination of such a urethra by means of the endoscope shows a granular, congested mucous membrane.

The patient complains of pain on urinating; it is characteristic of such cases that they seldom complain of nocturia. The treatment consists in dilating the urethra with sounds or Hanks' dilators, the instillation of a mild silver salt or of silver nitrate and in intractable cases by cauterization of the urethra with strong silver nitrate solution or the electrocoagulating current. Sandalwood oil, in capsules containing ten minims taken in the middle of each meal, alleviates the discomfort caused by this condition.

Only a minority of women with bladder disturbances have uninfected urine. In the majority of cases a catheter specimen will show bacteria, in many of them pus as well. The condition may be acute or chronic. The acute case of urinary tract infection may take the form of an acute pyelonephritis (which strictly speaking does not come within the field of this paper) or of a simple cystitis. The existence of simple cystitis as an entity has been denied, but with this opinion I cannot agree. It exists, I believe, in two forms; one is the cystitis which occurs following the use of the catheter after operation or after childbirth; usually the bladder has been allowed to become overdistended and catheterization is not followed by bladder lavage. The few bacteria which are necessarily carried into the bladder by the catheter obtain a foothold on the traumatized or abnormally congested mucosa, and set up an inflammatory reaction. The infection may then ascend to the kidney pelvis, whether by continuity through the submucosa of the ureter or whether by means of the ureteral lymphatics is still a case for discussion, and pyelonephritis results. In order to prevent this distressing complication, the bladder should not be allowed to become distended. Stimulants to urination, such as prostigmin, may be employed.

If the patient does not void within ten hours after operation, catheterization should be ordered without hesitation; the bladder should be irrigated each time the catheter is used and the patient should be given some form of urinary antiseptic. Intravenous methenamine, grams two twice a day, is useful during the immediate post-operative period; later this drug may be given by mouth. If these precautions are taken, many cases of postoperative urinary tract infection will be prevented.

The other form of primary cystitis with which I am familiar is usually, although not always, preceded by a long automobile ride or follows exposure to cold or wet. In twelve to twenty-four hours, the patient notices slight frequency of urination and becomes unduly aware of the existence of her bladder. Shortly afterwards she voids urine which is grossly bloody. Cystoscopy done at this time or within a few days shows numerous areas of submucous hemorrhage in the bladder wall. These ecchymoses persist for a few days and within a week have disappeared. The bleeding lasts only for a day or two; the urine frequently clears up without becoming purulent. I have a theory that the condition may be due to a virus and that it is analogous to the acute upper respiratory infection in which infection with a virus is conceded to be the primary factor. Secondary infection by the colon bacillus occurs later*. The clearing up of the process is hastened by cystoscopy, perhaps because of the coincident lavage with boric acid solution; good results have followed lavage with 1-1000 mercurochrome solution. I cannot say why these measures help but I am convinced that they do. It may be that the slight increase in local blood supply which seems to follow the introduction of any mild antiseptic solution into the bladder helps to control the infection. If the infection is beneath the mucosa, as seems to be the case, the solution used in lavage certainly cannot affect the infectious agent directly.

The bladder has great recuperative powers and will throw off any infection that is not kept up by underlying pathology. There are many causes for such a continued infection; bacilluria of renal origin, the persistent infection associated with residual urine, lesions of the bladder wall, such as the rare solitary ulcer or trophic disturbance due to irradiation, and foreign bodies, stones, tumors. Chronic infection of the bladder may give no symptoms; in many cases the vesical irritability which is attributed to it is in reality due to the accompanying lesion, through the painful induration which has developed in the bladder wall. There is, however, a considerable percentage of women with bladder symptoms in whom no bladder lesion is found apart from the superficial inflammation caused by their chronic bacilluria. These patients usually give a characteristic history; they have had pyelitis of pregnancy or post-operative urinary infection, and have had recurrent attacks of "cystitis" since then. In some, the bladder has behaved normally between attacks; in others, there have been constant symptoms of vesical dysfunction. Particularly in the latter group, urinary tuberculosis should be suspected and a guinea pig inoculation done. If there are frequency, pyuria, and a urine from which bacteria cannot be grown on ordinary media, tuberculosis becomes a strong probability.

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*This theory is supported by the fact that in three recent cases in which the urine was cultured relatively soon after the onset of symptoms, no growth of bacteria was found. In later cultures in some of these patients, the colon bacillus was grown.

The fact that the urine does not contain pus does not rule out a chronic bacilluria. In every case of recurrent or persistent irritation of the bladder, therefore, a culture of the urine should be done.

A chronic infection accompanied by pyuria demands further study before treatment is instituted. The least that should be done is to have a flat film to rule out stone, and an intravenous pyelogram to rule out inequality of renal function or abnormalities of the pelves and ureters. These tests do not exclude the possibility of a bladder tumor. It is advisable for patients with chronic pyuria to be cystoscoped and to have a thorough study of the entire urinary tract.

In patients with bacilluria but with no pus in the urine, one should think of the possibility of a burned-out pyelonephritis on one side. A kidney infection occurring years before may result in an atrophied kidney; the infection no longer excites a reaction which causes pus to be given off, but the bacteria are still present. An intravenous pyelogram will rule out this possibility. If both kidneys are shown by intravenous pyelography to be normal, a simple bacilluria may properly be treated by internal medication without the necessity of cystoscopy.

A distinct type of cystitis is that which is found in connection with constantly alkaline urine. It is essentially chronic and is difficult to cure. Upon cystoscopy, one finds the mucosa, especially of the zone surrounding the bladder neck, to be deep red in color, superficially ulcerated and covered with patches of white fibrinous exudate. In some of these patches, the fibrin has become covered with calcareous deposits; in severe cases, these become the nuclei of stones. I have seen this type of infection follow the formation of slough in the bladder caused by the use of radium in a carcinomatous cervix and in other conditions in which a sloughing of the vesical mucosa has occurred.

This condition, known as "encrusted cystitis," is due to infection by one of the urea-splitting bacteria such as the proteus bacillus or less frequently a staphylococcus. The ordinary methods of acidifying the urine are of no avail. Ammonium chloride only adds to the severity of the process by supplying the bacteria with more ammonia to feed upon. The treatment consists in putting the patient upon catheter drainage and irrigating the bladder frequently with one per cent acetic acid. Tidal drainage sometimes works wonderfully well. At the same time the patient is given full doses of sulfanilamide. Stones and large encrustations must be removed by crushing them and washing out the fragments.

In order to treat a urinary infection intelligently, it is desirable to know the type of organism which is present. This is not the occasion for a complete discussion of the treatment of urinary infections, but it may not be amiss to call your attention to a few points.

Sandalwood oil given in ten minim capsules with each meal is often effective in reducing bladder irritability. It has a mild bacteriostatic effect and is particularly useful when the infecting organism is a coccus. It may be used whether the urine is acid or alkaline; its effectiveness is increased if a mild alkali such as potassium citrate is given at the same time.

Urotropin (methenamine) is effective only when the urine is markedly acid (below pH 6.0). In acid urine the drug is broken down into ammonia and formaldehyde; in neutral or alkaline urine, it is inert. The free formaldehyde inhibits bacterial growth and not infrequently irritates the bladder; often one can determine only by trial whether the bladder symptoms will be increased by the irritative effect of the formaldehyde or will be decreased by its bactericidal action. It is contraindicated when urethritis is the cause of symptoms. There is no use in giving urotropin unless the acidity of the urine can be brought down to at least pH 6.0; the urinary acidity may be increased by a number of chemicals as well as by an acid ash diet. Ammonium chloride and ammonium nitrate are the most widely used. Urotropin, as has been said earlier, may be given intravenously. I am convinced that it is of value especially in infections with bacteria of the colon group. It is without harmful effects and may be used over long periods of time.

The azo dyes such as benzochrome, pyridium and serenium exert a mild bacteriostatic effect, are effective in alkaline as well as in acid urine. They may be used over long periods without harm and at times have, in my experience, cleared up some rather stubborn infections.

The above drugs may be called the "home guard" against urinary infections; the shock troops are sulfanilamide, sulfathiazol, mandelic acid, and in the case of coccal infections, neoarsphenamine. Attack with these drugs must be intensive and of relatively short duration. They may affect the patient as well as his bacterial parasites. But if properly directed and used on suitable occasions, they offer the possibility of a rapid cure. Sulfanilamide is the most widely used, perhaps because it is effective in urine of all reactions. We do not know as yet just which bacteria it will kill, and which it will not kill. To be used really intelligently, sulfanilamide should be tested in vitro against the infecting organisms, and the actual concentration required to kill that organism determined. This requires laboratory facilities which are beyond the reach of most of us, so we give a few days' treatment with sulfanilamide and hope it will prove efficacious. I do not criticize this method; if used intelligently, it is practical and not dangerous. A point to remember is that infections controlled by sulfanilamide are likely to recur unless treatment is carried on for some weeks after all evidences of infection have disappeared. When the urine has cleared, the dosage may be dropped to fifteen or twenty grains a day, and continued at this rate for months, if necessary. It is needless to say that during this long course of treatment the patient should be seen at least once a week, and that blood counts should be done at least once a fortnight.

Mandelic acid is, in my opinion, more likely to produce a lasting cure of a colon bacillus infection than is sulfanilamide, given over the same limited period of time. The opportunity of continuing sulfanilamide treatment in small doses over a long period offsets this superiority of mandelic acid, so that the honors are about even.

In order to present to you a cross-section of disorders of the bladder in women,I have tabulated some forty cases seen by me for the first time in the past year. (Patients with definite lesions of the upper urinary tract, such as stone or pyonephrosis, are not included in this study even though they had bladder symptoms). Nine of the forty women either had urinary infection at the time they were seen, or had had such infection a short time previously. Seven of these showed definite changes in the urethral mucosa; the pathological findings consisted of polypoid edema about the bladder neck, a streaky redness of the mucosa, sometimes with flakes of fibrin adherent, or a granular mucosa which bled easily. The underlying infection was treated with sulfanilamide or mandelic acid, the local condition by dilatation and by irrigation of bladder and urethra with potassium permanganate or silver nitrate.

There were four patients with submucous fibrosis of the bladder. The initial capacities of their bladders were four, four, six and nine ounces. Cystoscopy showed the characteristic localized areas of intense congestion which bled when the bladder was distended. The urine in all was sterile and showed only a few leucocytes or red blood cells. One was treated by electrocoagulation of the lesion plus regular dilatation of the bladder with relief of pain and diminution in frequency, but with no great increase in capacity. One responded readily to a few dilatations of the bladder. Another was given a full course of sulfanilamide plus regular dilatations; frequency has been markedly reduced and bladder pain relieved, but the capacity has been increased only fifty per cent—from four ounces to six ounces. The fourth was seen only once.

Three patients had acute cystitis; all had hematuria and frequency as early symptoms and cystoscopy showed marked ecchymosis of the bladder mucosa. All cleared up within two weeks, two without medication, one with four days' treatment with sulfanilamide, grains forty a day.

One woman, whose urine, strangely enough, gave no growth on culture, showed an alkaline urine and encrusted ulcerations about the bladder neck; I do not believe she had tuberculosis, as her ureteral urines showed no pus, and guinea pigs were negative. It is possible that she may be infected by an anaerobic organism which showed no growth on ordinary media. Further bacteriological study is desirable.

Another, whose complaint was hematuria, had had radium treatment to the cervix nine years previously. Cystoscopy showed definite telangiectases in the bladder base and a white, parchment-like mucosa in this area. Incidentally, I have seen bleeding and ulceration of the bladder mucosa develop as late as seven years after radium treatment of the cervix. The mucosa, I believe, may become devitalized by the treatment; Archie Dean says that the condition is due to an endarteritis; if infection of the bladder takes place, the area of mucosa which has been most heavily irradiated and has lost its ability to resist infection breaks down and forms an ulcerated lesion.

Eight women, of whom six had hematuria, proved to have tumors of the bladder. Another patient, who came because of hematuria, had a carcinoma of the kideny. Three of the patients with tumor of the bladder had symptomless bleeding due to small papillary tumors; the others had infiltrating growths accompanied by infection, and as might be expected they complained of frequent, painful urination.

Five patients complained of incontinence of urine. One had a definite contracture of the bladder neck, with a fibrous sphincter resistant to dilatation. Another had a dilated, incompetent sphincter caused, in all probability, by trauma incident to childbirth. She was advised to have an operative tightening of the sphincter. Two had vesicovaginal fistulae. The fifth was incontinent because of the presence of an ovarian tumor (papillary adenocystoma) which lay directly behind the pubes and all but obliterated the bladder cavity by pressure. Her incontinence was relieved by removal of the pelvic organs.

There remained in this group eight patients whose symptoms, chiefly burning, and frequent urination, were caused by conditions in the urethra. The bladder urine in all these patients was sterile and their bladders appeared normal on cystoscopy. One of them had a diverticulum of the urethra which was full of pus and was undoubtedly a congenital defect, probably a vestigial wolffian duct. This diverticulum was removed surgically.

Another woman of fifty-four, whose urethra was granular and red, had a marked vaginitis which may have been the focus of infection. The vaginitis was treated with suppositories of theelin; the urethritis by dilatation and irrigation.

Two patients (aside from the one mentioned above) showed a definite contracture of the bladder neck. Dilatation of the bladder neck with Hanks' dilators and the Kollman dilator gave relief to one and apparently cured the other.

In this paper an attempt has been made to enumerate the various causes of disturbance of the bladder function in women, and to outline the method of approach to the problem. I have tried to show the steps which should be taken by the practitioner who would treat these patients intelligently, and to sketch for him the type of treatment for each group. No class of patients is more faithful to treatment, for these disturbances of the bladder function make life miserable for the woman who suffers from them. They may not place her life in jeopardy, but it is a great satisfaction to be able to help her.

Pathologic Defections of the Corpus Luteum of the Ovary*

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SCIENTIFIC KNOWLEDGE of the physiology and pathology of the human ovary has reached a point where no one can briefly cover any general subject relating to this organ with any degree of completeness; consequently, the scope of this paper is limited to defections of structure and function produced by one phenomenon that affects the ovary, namely, hemorrhage into the corpus luteum. This problem may seem simple and specific, but consideration of it will prove that its ramifications lead beyond the field of pathologic anatomy into clinical and experimental medicine in surgery.

The corpus luteum normally develops in the ovarian follicle after the discharge of the ovum. It is now generally considered that the follicle ruptures at about the fourteenth or fifteenth day of a twenty-eight day menstrual cycle and the yellow foamy cells that form the lutein body develop rapidly. The lutein cells evidently elaborate an internal secretion which prepares the endometrium for pregnancy if the ovum is fertilized, or if not, for the next menstruation. It is probably normal for a small hemorrhage to develop in the ovarian follicle following ovulation, but this hemorrhage is quickly smothered by the rapidly developing lutein cells. If pregnancy takes place, the corpus luteum persists until the menstrual cycle is re-established. If pregnancy does not take place, the lutein cells are quickly resorbed. It is generally supposed that the site of the degenerated corpus luteum is marked by a small scar called the corpus albicans or white body. Unquestionably these scars result from resorbed corpora lutea, but it is not reasonable for us to accept that they represent a normal process, because normal physiologic cyclic changes are not ordinarily followed by scar formation. Furthermore, atrophic ovaries of women past the menopause seldom contain more than five or six such scars and not one to represent every menstrual cycle during the active life of the ovary. The presence of old blood pigment in many of these scars and their variation in size leads inevitably to the suspicion that they represent resorbed corpora lutea that have been the site of varying abnormal amounts of hemorrhage. If this is true, then nearly every woman develops several hemorrhagic corpora lutea during the course of her menstrual life because all ovaries of adults contain a few white bodies visible to the naked eye. Since a small hemorrhage into the ovarian follicle is probably a normal phenomenon, it is not surprising that exaggerations of this hemorrhage occur with considerable frequency to produce what is called a hematoma of the corpus luteum.

The causes and effects of excessive hemorrhage into the corpus luteum of the ovary were approached indirectly in an attempt to fathom a personal observation by a famous pathologist, Dr. Broders, who said that a large proportion of chocolate cysts of the ovary are in reality hemorrhagic corpus luteum cysts and that he was inclined to the opinion that the generally accepted concept of Sampson that chocolate cysts are formed by retained blood menstruated by the isolated bits of endometrium found outside of the endometrial cavity in the disease known as endometriosis does not apply to all chocolate cysts.

Verification of Dr. Broders' observation is not difficult because chocolate cysts of the ovary are not uncommon and endometriosis is not difficult to recognize in microscopic sections. Most of the lining of chocolate cysts is composed of granulating scar tissue which contains phagocytic cells occupied with the function of clearing away old hemorrhage. Often the scar tissue resembles that found in the corpus luteum not destroyed by a large hemorrhage. The chocolate-like substance within the cyst is well known to be hemosiderin, a brown degeneration produce of red blood cells.

Evidently then, a large proportion of chocolate cysts of the ovary are not due to menstruation into an endometrial tumor, but represent an exaggeration of the well known hematoma of the corpus luteum in which the hemorrhage is sufficiently large that the blood is changed in character before the contents of the cyst can be resorbed.

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Frequently chocolate cysts are encountered in both ovaries, and there may be more than one cyst in either or both ovaries. Under such circumstances it is evident that after each succeeding follicle ruptures, a large hemorrhage occurs into the corpus luteum and the presence of multiple chocolate cysts simply represents a collection of multiple hemorrhagic lutein bodies over a period of several menstrual cycles. Chocolate cysts occur in a wide variety of sizes and stages dependent upon the amount of hemorrhage and the age of the lesion, respectively. It is possible to trace on the one hand, the resemblance between a fresher chocolate cyst and an easily recognized hematoma of the corpus luteum, and on the other hand, the resemblance between an older chocolate cyst and its end stage of resolution, the corpus albicans.

It seems to me that Sampson's generally accepted theory that chocolate cysts of the ovary are of endometrial origin should be modified.

In the department of pathology of the Mississippi Baptist Hospital, endometriosis involving the ovary has been encountered only twice since January, 1938. During the same time, ovarian hematomas of all sizes and ages have been removed surgically at the rate of about four per month. In one ovary involved by endometriosis there were no chocolate cysts at the time of removal; in the other ovary involved by endometriosis, there were chocolate cysts but it was not at all clear that the cysts were caused entirely by endometriosis. On the other hand, endometriosis has been found in old surgical scars, in the pelvic peritoneum, in the oviducts, in the umbilicus, in the recto-vaginal septum, and even in the appendix; but in none of the latter locations were there chocolate cysts. In fact, texts of gynecology and surgery do not describe formation of chocolate cysts in association with endometriosis except in the ovary.

A word of caution is essential in pointing out that any old hemorrhage into an ovary will produce a chocolate cyst because hemorrhages frequently occur into malignant tumors of the ovary. It is not usually difficult microscopically to differentiate hemorrhage into a tumor from hemorrhage into a corpus luteum, but since chocolate-colored blood pigment will appear in any old hemorrhage irrespective of its origin, it must not be assumed that the appearance of chocolate-colored fluid is an infallible sign of a benign lesion.

When he probes into the symptomatology, cause, and effect of corpus luteum hematomas, the pathologist is at once outside of his field of training, and must call for help from a wide variety of other medical and surgical specialists. Originally this study was to have been undertaken with the collaboration of the late Dr. Frank Hagaman who was interested in the clinical features of ovarian hematomas, but the clinical studies were cut short by an unkind destiny.

It is well known that ovarian hematomas rarely rupture into the peritoneal cavity and produce massive hemorrhage simulating ectopic pregnancy. Most commonly the amount of blood that escapes into the abdomen is slight, but distention and peritoneal irritation of the ovary itself simulates appendicitis. In fact, rather innocent-looking appendices are removed from women one and a half times as often as from men. Since men more often develop true acute appendicitis than women in the ratio of nine to seven, we are led to suspect that many women are subjected to appendectomy for ovarian pain. That the hematoma of the corpus luteum is responsible for appendicitis-like pain is demonstrated by the frequency with which surgeons remove an ovary or portion of ovary that contains this lesion along with a normal appendix. If such cases were added to those of so-called "chronic" appendicitis, we would find that chronic appendicitis is twice as common in women as in men.

The effect of excessive hemorrhage into the corpus luteum on other structures, and the indirect clinical symptoms are theoretically easy to understand. The function of the corpus luteum seems to be differentiation of the endometrium to prepare it for menstruation or pregnancy. Interference with the function of the corpus luteum by hemorrhage which destroys many of the lutein cells, should cause menstrual disorders and sterility at least for the cycle in which the corpus luteum is injured. If the mysterious cause of these hematomas continues to operate so that many successive cycles are affected, prolonged menstrual disorders and persistent sterility are to be expected. Histologically it is possible to verify the fact that the endometrium is not properly differentiated towards the end of the cycle in which the ovarian hematoma occurs.

The reason for excessive hemorrhage into the corpus luteum will not be found by the pathologic anatomist, because local lesions in the ovary or nearby structures are not consistently associated. Pelvic inflammation has been cited as a cause, and it is true that in most cases of salpingitis there are one or more hemorrhagic cysts of the ovaries. On the other hand, there were inflammatory changes in the tubes in only one-fifth of the cases of ovarian hematoma encountered at the Mississippi Baptist Hospital.

Since local causes for this disease cannot be found, we may turn to general ones and immediately find ourselves deep in floundering speculation. If it were possible to diagnose ovarian hematoma before surgery, the effect of one general deficiency, namely, vitamin deficiency, could be proved or ruled out by adequate clinical study. The reason that vitamin deficiency is mentioned is that one of the very pigments that makes the corpus luteum yellow is carotene which is closely related to vitamin A, and the lutein cells of ovarian hematomas always appear paler than normal. The objection can be raised that vitamin C and K deficiencies are more commonly associated with hemorrhage, or vitamin E deficiency with sterility, and, indeed some combination of such deficiencies is not impossible. Clinical investigation must be stimulated because a means of prevention is desirable.

Practical possibilities of research on this subject of ovarian hematomas are evident, and removal of their cause would undoubtedly improve the health of the individual, clear up some persistent problems in functional sterility and functional menstrual disorders, and prevent a painful pelvic lesion. Probably the most practical point of all is that there would be far fewer surgical castrations of the female.

DISCUSSION

R. M. MOORE (Oxford): Dr. Henthorne's discussion of the probable pathological changes occurring in the corpus luteum and their possible results has been very interesting; and it merits more consideration than we can give to it this afternoon.

I have often remarked to my students of the actual infrequent occurrence of true blood-filled endometrial cysts of the ovary in contrast to the comparative frequency of occurrence that textbooks would have us believe. For a long time I thought there was something wrong with me, or my technician, because I couldn't demonstrate such "common" lesions of the ovary; but my experience paralels that of Dr. Henthorne's. Since September 1, 1937, I have found only one chocolate cyst of the ovary lined by true endometrium, and we probably examine almost as many surgically removed ovaries in the University Laboratories as are seen here in the Mississippi Baptist Hospital.

Looking at the situation from the viewpoint of a tissue pathologist, I wonder if the discrepancy in our findings and that of others isn't due to a difference of opinion as to just what constitutes a true endometrial cyst. The presence of gland-like structures, cystic or non-cystic, with or without blood, and lined by a single layer of epithelium resembling endometrial cells, is not sufficient evidence of endometriosis to warrant such a diagnosis. The cells must not only resemble endometrial cells, but they must be separated from the surrounding ovarian tissue by a stroma made up of characteristic round cells of the uterine mucosa. However, I have seen good pathologists diagnose endometriosis because epithelial cells alone were found in histologic sections of cyst walls.

As Dr. Henthorne pointed out, "In many of the chocolate cysts a very thin layer of lutein cells can be found, representing some portion of the corpus luteum not destroyed by the hemorrhage." These cells in being destroyed or those that have already been destroyed must undergo degenerative and necrobiotic changes that may cause them to resemble endometrial cells at one stage or another. The same may be said of the cells lining the atretic ovarian follicle when hemorrhage occurs into it; and these atretic follicles are a most frequent site of hemorrhage into the ovary. The reason perhaps why some of our confreres find so-called blood-filled endometrial cysts so often is because they are mistaking these hemorrhagic and degenerating atretic follicles or the lutein cysts as evidence of endometriosis.

This is a very timely subject and a subject which merits much co-operative thought and study between the tissue pathologist and the clinician, and as has been pointed out such a study may materially reduce the frequency of so-called chronic appendicitis and the removal of normal appendices in women.

DR. ROBIN HARRIS (Jackson): The principle foods rich in vitamin A are yellow foods, such as egg yolk, liver, carrots, sweet potatoes, yellow cheese, butter, cream and so on. Perhaps the yellow foamy cells that form the lutein body are rich in vitamin A as is certainly egg yolk. Then, if a patient be so deficient in vitamin A and also deficient in some other, such as vitamin C, the yellow cells of the lutein body may not properly develop and the essayist's reasoning be confirmed.

In the eye, the visual purple is vitamin A. The amount of stored vitamin A in the body can be measured by testing the rapidity of regeneration of the visual purple after exposure to bright light.

The essayist perhaps proposes to prove to you in future years that there is a deficiency of vitamin A in so-called "chocolate cysts." To aid him we can, at the present time, only demonstrate the amount of stored vitamin A by testing the rapidity of the regeneration of visual purple. While this test is not scientifically accurate, it is certainly, to my mind, a practical test. (Lantern slides).

DR. H. R. SHANDS (Jackson): I feel that Dr. Henthorne has brought to our attention a subject not only interesting to the pathologist, but of practical interest to the operating surgeon. I began doing surgery before we had such a diagnosis as endometriosis. We were finding then, and we find now at times the small hemorrhagic ovary or ovarian cyst, and if we accept the teaching that according to the general belief chocolate cysts mean endometriosis, the only way to cure it is to remove all of the ovarian tissue. I think that is the practical application that the surgeon here should be especially interested in. It certainly is a source of great comfort to the operating surgeon when it becomes necessary to remove a chocolate cyst to have an examination made. It has been my duty on at least two occasions to remove cysts like this and I, on account of the youth of the patient, withheld the removal of the other ovary. One of these patients has since married some 10 or 12 years ago, and she has a family of two children. I believe that Dr. Henthorne has directed our attention to an important matter, which will justify the surgeon in withholding necessary surgery by letting us know that these chocolate cysts are most frequently not due to endometriosis. Only this week I was greatly relieved in removing a small ovarian cyst to get the report that it was inoperable; the other ovary had been removed, and I had no hesitation in removing this ovary because she suffered a great deal of pain. I do think he has probably strengthened our whole background on withholding the removal when it is not necessary.

DR. MCLEAN (Jackson): I hope that Dr. Henthorne does not object to my mentioning one phase of this subject which he has mentioned, relative to the clinical side of the application of his theory. In that respect Birch and others have written a great deal about such disorders relating to the endometrium. Just to stress the one point which I want to bring out, I would like to mention one case of sterility of 5 years duration, associated with a menorrhagia, which increased to the point of continued menstruation over a period of three weeks, which proved to be associated with a large chocolate cyst, the size of a grapefruit, on removal of which, or subsequent thereto, that woman has had three normal pregnancies.

DR. JOHN C. HENTHORNE (closing): I am very grateful for the discussion that has been brought forth, but I believe if I had presented this paper before a group of pathologists that I would have been called down very severely for combating a well established theory. I am very much gratified that Dr. Moore's experience is very similar to mine. I want to call attention right here to the fact that after all, this is not my idea. I claim no originality in this regard. It is Dr. Broder's observation that I was attempting to follow. I have sometimes found cells that I did not know what they represented. Dr. Harris' discussion brings out necessary collaboration with various specialists in order to solve this problem completely. I have been joshed a bit as to why we invited an eye, ear, nose and throat man to discuss a paper on the subject of ovarian cysts, but I believe Dr. Harris' discussion has brought out very clearly that there may be some relationship between the development of hemorrhage and vitamin A. He has not made that statement but that possibility is something we must consider. The last case that Dr. Harris mentioned was one of those which I believe was the last picture shown.

Dr. Shands' remark that we should probably remove less ovaries than have been removed in the past falls very much in line with what I had in mind in writing this paper. If a hemorrhage has produced chocolate cysts those cysts might require any portions of ovary left behind to have another operation. If vitamin deficiency would help it would certainly be a simple problem, but we do not know that vitamin deficiency is the true cause. I find in a great many cases where endometrial curettings are done for the relief of some disorders that we find the endometrium in the third week, that is just the beginning. No matter what time the work of corpus luteum has started, if the cycle is removed, for instance the patient may be curetted just before the menstruation is supposed to take place. Still we find the differentiation has not progressed as far as it should. We assume then that some of these menstrual disorders are due to corpus luteum deficiency.

Frequent Errors in Tonsil and Adenoid Surgery*

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THE DISTRIBUTION of the lymphoid elements composing Waldeyer's ring (lymphatic pharyngeal ring) is arranged in a systematic plan. The adenoid (pharyngeal tonsil) is the most active segment of the ring in the infant. The tonsils share with the adenoid this activity during the first year of life and by the third are of greater importance. The upper pole hypertrophies with infection in young children, whereas the lower pole is capable of greater hypertrophy past puberty. The tonsil of a child is not attached to the tongue, but starting with the growth of the subtonsil tissue and the hypertrophy of the lower pole, the tonsil is definitely attached to the tongue. The lingual tonsil is the natural lymphoid laboratory of the mature and its importance increases with age. The retropharyngeal gland drains the adenoid and is the first gland of the body to atrophy. The adenoid begins normally to atrophy between the sixth and eighth year and by puberty should be represented by a flat furrowed distribution of lymphoid tissue. The retropharyngeal glands collect afferent radicles from the mucous membrane of the nasopharynx, the Eustachian tube, the tympanic cavity, the nasal fossae and the accessory nasal sinuses. The efferent vessels pass into the superior glands of the internal jugular cervical group. The nerves to the pharyngeal tonsils come from the pharyngeal plexus, vagus and the superior cervical ganglia.

The term "adenoids" is a comprehensive word signifying an abnormal anatomical or pathological change in the pharyngeal tonsil. The younger the infant the greater the possibility that the adenoid is the seat of pathology during an acute upper respiratory infection. The complications of the latter are the result of the inflammation and subsequent blockage by this lymphoid tissue. The acute middle ears of childhood are usually the result of extension of the infection through the Eustachian tubes. If the inflammation extends beyond the confines of the pharyngeal tonsil, the retropharyngeal glands will enlarge and occasionally suppurate. This latter phenomenon produces the retropharyngeal abscess. As previously stated, these glands atrophy early and for that reason retropharyngeal abscesses of a suppurative nature occur most frequently in the first three years of life. If the adenoid fails to atrophy, its persistence obstructs normal respiration and drainage of the Eustachian tubes.

The disturbance of the physical mechanics of respiration will be reflected in deformities of the nose and a change of the facial expression thus producing the so-called adenoid facies. The pharyngeal tonsil is a part of the respiratory system and shares in the infections of the upper tract.

The signs and symptoms of "adenoids" are essentially those of nasal obstruction varying in degree depending upon the size and duration of the hypertrophy. A dirty nose, mouth breather and vocal defects are the cardinal signs of "adenoids." The mouth breather has a fetid breath and alternatively a dry mouth and a dribbling of saliva. He swallows his food awkwardly and the suckling child has attacks of choking. His speech is defective and his articulation poor. The voice tires soon and the absence of resonance gives him a nasal tone. The child is unable to blow his nose and must either sniff or sneeze and still have a dirty nose. At night the infant snores and has night terrors. The lack of oxygen robs sleep of its restfulness. Some of the children have a cough varying from a clearing of throat to asthmatic paroxysm.

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The tonsils are a part of the digestive system and are influenced by diseases of the digestive organs. An acute tonsillitis may be produced by an acute gastritis or a constipation. When the pharyngeal and faucial tonsils are surgically absent, nature may prematurely develop even to the state of hypertrophy, the lingual tonsils. This is signficant in the child, that the loss of the upper segments of Waldeyer's ring can be compensated by the use of the lower ones.

The most common operation performed in the modern hospital is for the removal of the tonsils and adenoids. Unfortunately, the operation is attempted by those who are not specialists and the large percentage of accidents are results of incompetency in anesthesia.

THORNWALDT'S DISEASE

(Luschka Bursa)

The formation of a discharging cyst at the site of the adenoid is called a Luschka bursa and the disease is known as Thornwaldt's. It is more frequent than generally discovered and its treatment is surgical.

The usual complaints of these adults are the result of the accumulation of the discharge in the nasopharynx over the site of the bursa. The treatment consists in the thorough removal of the bursa and attention to the healing of the denuded nasopharynx.

ANESTHESIA

GENERAL—The choice of anesthesia depends upon the age and mentality of the patient. All cases fifteen years or younger should receive a general anesthetic. The removal of the adenoid is best accomplished under general anesthesia. If an adult is illiterate, impressionable or nervous, a scientifically administered general is safer than attempting a local anesthetic. In children preliminary administration of sedatives is contraindicated, as it is desirable that the patient react immediately upon the cessation of the administration of the anesthetic. The superior constrictor of the pharynx should be active before the patient leaves the operating room, as contraction stops the hemorrhage of the adenoid and then guards the lung from blood entering through the glottis. The patient should be turned over on his stomach and the head held in the draining position until consciousness has returned. When a sedative is administered to an adult at least one half an hour should elapse before the operation. This allows of sufficient time for the sedative to have its effects, thereby preventing a double action during the early stage of the anesthetic. Ether is the safest anesthetic for the removal of a tonsil and adenoid. Gas induction is desirable, but its continuous use limits the surgical procedures and frequently confuses the surgeon in the face of any complication or hemorrhage.

Forty deaths from general anesthesia were reported in 1924 by Collins and Sydenstricker and of these 57 per cent were during tonsillectomies. Reimann and Havens reported seventy-five deaths in 1924 during tonsil and adenoids operations in the United States and they estimate that eighty-five deaths occur annually in England as the result of tonsillectomies. It is the duty of both the surgeon and the anesthetist to watch the stage of anesthesia, especially of children. The great improvement in the construction of the apparatus for the administration and maintenance of the anesthetic has added to its safety.

LOCAL—The Section on Laryngology, Otology and rhinology of the American Medical Association in 1919 appointed a committee on the advantages and disadvantages of the various local anesthesias in nose and throat work, consisting of Emil Mayer, M. D., New York, Ross Hall Skillern, M. D., Philadelphia, and Robert Sonnenschein, M. D., Chicago.

The knowledge accumulated and dispensed by this committee will always remain a monument to its members and I would advise anyone who has studied this report to refer to it in the A. M. A. Transactions of 1920.

Twenty-one fatalities were reported from local anesthesias, two occurred in nose operations and nineteen in throat operations. Of the latter fifteen were the result of the administration of cocaine, five were due to novacaine and one from procain.

"Of the cocaine deaths, five were due to avoidable mistakes. The majority died within a very short time, as a rule after the administration of the drug, three minutes being the usual amount of time."

From their summary, the following conclusions are quoted:

"None of the synthetic products equals cocaine in its local effect when applied to the mucous membrane."

"These synthetic products may be freely injected if slowly done, in proper doses in unlimited quantities."

"Fatalities either occur immediately or not at all."

"The greatest danger lies in too rapid injection or entering a vein."

A. A. Hayden followed this wonderful report with a classical paper before the Academy in 1922. The summary of this paper is as follows:

1. "That there is no standardized technic for local anesthesia in otolaryngology.

2. That certain fatalities are inevitable and unavoidable.

3. The need of:

(a) Prophylaxis against intoxication following local anesthesia.

(b) Treatment of intoxication during local anesthesia.

Prophylaxis against intoxication following a local anesthesia.—The occurrence of symptoms of acute poisoning—either grave or mild—together with the realization that death may occur almost immediately, are apt to strike the operator and his assistants with panic, especially if they are not thoroughly equipped to meet the emergency promptly. A fatality under such circumstances is most deplorable. The advent of barbital preparations has decreased the number of cocaine poisonings.

All operative cases should be hospitalized. Preliminary hypodermic injection of morphine and atropine seems to have established its usefulness, especially in nervous individuals. The recumbent position during operation is always desirable, but if you prefer the upright, the chair should be adjustable and upon the advent of fainting be leveled and one ampoule of coramine (1.5cc.) be administered.

Whenever the personal history discloses some suspicion of an idiosyncrasy to your favorite local anesthesia, the patient should be tested for tentitivity to other anesthetics until a safe drug is obtained. The findings should be definitely noted in the record.

Application of cocaine in the nose and throat should always be preceded by thoroughly drying the field with cotton applicators or suction, or both. There is no reason for the use of cocaine mud, except when limited to the size of a bead and applied to a limited site of membrane, as to the site of the nasal ganglion. This precaution prevents the patient from swallowing any of the drug in the saliva, and delivers the solution to the area to be anesthetized undiluted by regional secretions. In the writer's opinion, however, preliminary pharyngeal cocaine applications are dangerous and unnecessary except in bronchoscopy. Today the use of the synthetic local anesthetic lozenger, as P-aminobenzoic ethyl-ester, replaces the preliminary application of cocaine.

Rule 1—Only the smallest amount of the weakest solution of the least toxic drug, that experience has shown will produce satisfactory ischemia and complete anesthesia, should be administered. An enlightening word of instruction to the patient before the administration of the anesthetic is of value. Explanation of the adrenalin stimulating action and the loss of the conscious element of swallowing prevents anxiety upon the appearance of these symptoms.

Treatment of Intoxication—The symptoms group themselves in three stages: excitation, convulsions and paralysis.

(a) Excitation—First symptoms are an unusual inclination to talk, rapid breathing with a slight increase in the pulse rate and its volume. These symptoms are due to the stimulative effect of the drug and rapidly gives place to loud laughing, crying and loss of self-control, together with muscular twitchings; a rapid, thready pulse and widely dilated pupils. These symptoms demand quick action as the intravenous administration of sodium phenobarbital grains two or ether by the open method.

(b) Convulsion and Paralysis—The paralysant action is preceded by definite convulsions with irregular, shallow, rapid respiration and an embarrassment of the circulation. This sequence is usually very rapid. Most reported fatalities have occurred within a minute. The author has used ether by the open drop method with great satisfaction, producing a light second stage anesthesia for several minutes. Upon regaining consciousness, all signs of poisoning were absent in those so treated.

The patients should be kept lying down, with the head lowered, inasmuch as excretion is probably largely through the liver, high, hot colonic flushings are indicated. Otherwise the treatment is symptomatic. Stimulants should be used for cardiac or respiratory embarrassment, as coramine, amyl nitrite, aromatic spirits of ammonia, camphorated oil and strychnia. Artificial respiration and possibly intratracheal oxygen insufflation may be resorted to if breathing stops. When the nervous element predominates morphine is the best sedative.

INCISION OF ABSCESS

Parapharyngeal and peritonsillar abscesses may displace the deep vessels and present a real hazard to blind puncture. The former are more dangerous in throats where the tonsils are surgically absent. Recently, it was necessary to ligate the common carotid in a young lady whose convalescence was complicated by a severe spontaneous hemorrhage. Fortunately, this case was allowed to drain spontaneously. No surgery was performed other than an enlargement of the site of the rupture.

OPERATION

"The tonsil, the whole tonsil and nothing but the tonsil." (Fowler).

The choice of operation for the removal of tonsils and adenoid depends upon the training and experience of the surgeon. Equally satisfactory results may be obtained by any of the recognized techniques. Haste at the expense of perfection is bad. Mutilation of the pillars should be avoided, but the complete removal of the tonsils is demanded.

As a rule, the removal of the subtonsil tissue between the tongue and the lower pole will require a distinct manipulation and in the adult is of importance because this tissue is frequently the focus of infection. While in the child this tissue may serve as the etiological cause of cervical adenitis.

HEMORRHAGE

Hemorrhage is worse during the warm months because of the disturbed chemical balance, brought about by sweating with the loss of chlorides or the lack of vitamin C, the result of the absence of the citrus fruits from the summer diet. The venous pressure is influenced by the warm weather and may prolong bleeding when once established.

The tonsils present three major anatomical sites of bleeding. The artery enters the center of the fossa where the large descending vein terminates. This point should invariably be tied in all adults and at the discretion of the surgeon in children. The vein may be injured at the upper pole and if ligated should be done above the site of bleeding. The lower vein presents a "Y" formation in the lower pole. A ligature about its stem will control the bleeding of either arm and should be applied below the site of hemorrhage. No case should leave the operating table until all visible hemorrhage has been controlled. At times the veins on the under surface of the anterior pillar will furnish an aggravating bleeding point and demand ligation. I prefer slip knot ties of black silk firmly placed with a minimum amount of tissue within its grasp for the puncture made by a needle with the burying of a suture invites of infection, but when the hemorrhage is active sutures are indicated. A mixture of gallic acid grains 3½—tannic acid grains 320—distilled water qs to one ounce, when applied to the tonsil fossa closes the smaller vessels and outlines bleeding points, which will require ligation.

Postoperative hemorrhage may occur within eight hours after the operation. The administration of surgical pituitrin in doses of five minims every fifteen minutes for three doses will re-establish ischemia sufficient to control moderate oozing. If the bleeding persists after a trial of pressure and pituitrin, immediate ligation of the offending vessel will save the patient blood and the surgeon worry.

Secondary hemorrhage is the result of infection and may occur up until the eighth day. I have seen a severe hemorrhage as late as the twelfth, though the fifth day or night is the most common. The administration of a series of pituitrin is of value after the fossa has been emptied of the clot, using pressure with or without astringents in the fossa. Infiltration about the fossa with novocain and adrenalin should next be tried and as a last resort, the use of sutures. The sewing into the fossa of a sponge is mentioned only to condemn, as it is penny wise and pound foolish, due to the fact that it aggravates the infection already present. I would not hesitate to ligate the external carotid for an uncontrollable hemorrhage and on one occasion contemplated doing so. If the patient loses a large quantity of blood, a transfusion is demanded, even though it be embarrassing to the surgeon.

ACCIDENTS DURING OPERATION

The preservation of mucous membrane is a wise procedure and for that reason an anatomical dissection should be performed as the first step of any technique. The mutilation of either of the anterior or posterior pillar should be avoided by careful dissection, thus preventing scars and deformity. A good assistant can stretch the pillars and by holding them taut allow of accurate incision. Being Bellevue trained, I prefer the Bellevue technique. The fundamentals laid down by Coakley were first to dissect the posterior pillar free close to the tonsil capsule. The plica semi lunaris is then incised, freeing the upper pole and the separation brought forward liberating the anterior pillar. The attachment of the tonsil to the tongue is outlined by an incision and if the separating instrument fails to incorporate this lower limit, it may be removed separately by sharp dissection or carefully with a snare. This latter procedure is risky and it is easy to acquire more tissue than desired. At times the glossal pharyngeal nerve is exposed at this point. If this happens a purse string suture is needed to cover over the exposed nerve. In the elder females, the styloid process is easily injured, especially when an instrument the type of Sluder's is used with force. These patients complain of pain for many months after operation, necessitating at times a second operation for the removal of the broken fragments. Penetration of the deep fascia opens avenues for infection and at times allows air to escape into the deeper tissues.

POSTOPERATIVE CARE

The prevention of postoperative complications is best accomplished by having a routine nursing care for the operative day and a follow-up instruction sheet for the patient.

Postoperative Care—An ice collar is applied for the first day. The patient is instructed to rest the throat from talking, hacking or coughing, while gentle expectoration is allowed as long as the saliva contains a mixture of fresh blood. The tonsil fossae are powdered every two hours with "Acriflavine grain 1—menthol grain 3—alcohol dram 1½ benzocaine ounce ½—starch ounce ½ and powdered aspirin ounce 3" and empirin powders in a tablespoonful of water are given before the taking of fruit juices. The patient should be instructed to drink freely after the first hour and the administration of fruit juices assists in the maintenance of the vitamin C balance, which aids in the clotting of the blood. Grape juice is preferred because of its tannic acid content. Milk and milk products after the administration of a general anesthetic have a tendency to nauseate the patient and are eliminated until nausea has ceased. If the patient continues to be nauseated in spite of no hemorrhage the following is tried:

(a) General anesthesia patients—a barbital rectal suppository.

(b) For the local anesthesia patient—one ampoule of coramine, as some are nauseated by the barbital in the basic anesthetic.

(c) Glucose 5% in saline intravenously—300 cc. for children and 500 cc. for adults to correct the disturbance of the biochemical balance. A sedative according to the age at bedtime assures a restful night's sleep.

The morning after the operation the patient is taught to cleanse his mouth and throat with half strength peroxide; to brush the teeth and to anesthetize the throat by using powdered empirin. A warm cloth about the throat will assist in the relaxation of the muscles and makes to a happier breakfast. Each morning the patient has a relapse.

The day begins with the first meal and it is better for a patient to eat five or six times a day than to have a phobia and go about avoiding food. After each meal the tonsil fossae should be irrigated with a mild antiseptic and a bland nasal drop administered with the tongue protruded in the forward position. Each night a laxative may be administered in the form of mineral oil, which will serve the double purpose of also lubricating the pseudomembrane covering the surgical field. In case of hemorrhage, it is best to have the patient return to the hospital.

INFECTION

Local—The eating of solid foods cleanses the fossa and when followed by an irrigation of a diluted antiseptic does more to prevent infection than extensive manipulations. Pain out of proportion to physical findings frequently means infection and the most common local infection is a contamination by the organisms of Vincent's. It is my practice to administer sodium cacodylate grains five intravenously the day of operation and the first day postoperative in adults. Subsequent administration serves as a tonic and since the establishment of this routine we have had no lung abscesses.

DRUGS AND SERUM: The preliminary examination should include a clotting and bleeding time. The preoperative administration of calcium with parathyroid or viosterol will lower the clotting time. I do not utilize the hemostatic serums, as they are dangerous and I once witnessed a sudden death, the result of an intravenous dose of horse serum for hemorrhage. If one of the hemostatic serums is administered, the patient should be first tested for his sensitiveness to the serum and be warned as to the possibility of a later serum reaction. If some blood clotting drug is desired, I prefer the intravenous administration of an ampoule of calcium gluconate and to prevent any calcium reaction simultaneously administer subcutaneously 1 cc. of the parathyroid extract.

VITAMINS C AND K: The alcoholic adult eliminates his vitamin C, which weakens his capillary contraction. This deficiency may be overcome by a preoperative abstinence from alcohol and the administration daily of 2 cc. of vitamin C injectable.

Vitamin K lowers clotting time and may be given in 1 cc. doses daily from two to five days preoperative and one hour before and after the operation.

HYPERTENSION: We will always be required to operate upon patients with an elevated blood pressure, but it is foolhardy to operate at the height of their pressure. The administration of theobromine calcium combination, two tablets twice a day for one week will lower the pressure. They should also be made to enter the hospital one or two days prior to the operation for rest.

DEEP CERVICAL INFECTION

The factors held responsible for the occurrence of this condition are:—

(1) Severe trauma to the superior constrictor muscle with an extension by contiguity of tissue.

(2) Activation of a latent peritonsillar infection by the operation.

(3) A resistance lower than average on the part of the patient.

(4) The administration by needle of the local anesthesia, especially when the injections are made through the tonsil tissue. An exception to this was the report of Robb, that for the past ten years he had utilized this form of anesthesia with less incident of infection.

(5) Contamination of the needles or solution prior to injection.—The possibility of infection by this source is by no means negligible. It is a common observation that the needle is often handled in a careless fashion or removed with the fingers.

(6) The mucous membrane at the site of infection.—Theoretically, contamination of the needle takes place as soon as it touches any part of the pharyngeal or oral surface. While it is difficult to speak with any certainty about the possibilities of this source, it would seem to be of little importance when one considers the many dental injections that are made with perfect impunity. The site of injection may be painted with 2% mercurochrome solution or tincture iodine one part and alcohol one part.

(7) Penetration of contaminated instruments other than the injection needle through the fasciomuscular wall separating the tonsillar fossa from the prestyloid compartment.—Such an accident must be quite rare even with unskilled operators. Under this heading is also to be considered the possibility of carrying infection into the parapharyngeal space by means of curved needles during ligations for tonsillar hemorrhage.

(8) Through the tonsillar veins. — Many thrombi, both septic and aseptic, have been found in the tonsillar veins following operation.

(9) By way of the lymphatics.—Uffenorde considered the lymphatics to be the most important route for the spread of pharyngeal sepsis in acute infections of the throat. Two possibilities exist:

  (a) Through suppuration of the deep cervical lymph nodes adjacent to the carotid sheath as well as those located on the posterior belly of the digastric muscle. There is no reason why a tonsillar operation cannot produce a deep adenitis as well as a superficial one. The chances of suppuration, however, would be about as infrequent in these glands as in the anterior cervical and submaxillary lymph node enlargement so commonly observed during the first few days after the operation.

The pathogenic bacteria directly responsible are reminiscent of the usual flora in the mouth and pharynx. Streptococci, both hemolytic and nonhemolytic, fusiform bacilli, pneumococci and staphylococcus aureus, alone or mixed with other invaders, are the agents reported by most observers. The pus is usually malodorous indicating the probable presence of anaerobes which are difficult to demonstrate with ordinary methods. B. welchii will produce a virulent infection and is commonly fatal.

SYMPTOMS OF DEEP INFECTION

The symptoms are often masked by the postoperative complaints incidental to most tonsillectomies. They may appear as early as the end of the first day, but more frequently between the period from the fourth to the seventh postoperative day.

Types—(a) Phlegmonous 94%
(b) Vascular.

PHLEGMONOUS FORM: This is primarily a cellulitis of the loose tissue within the prestyloid compartment, to which it probably remains confined in uncomplicated cases. Abscess formation takes place in the majority of instances. The diagnosis rests mainly on three cardinal signs; in order of their appearance these are trismus, fever and swelling of the neck on the affected side. This symptom-complex was present in practically every case reported in the literature where details were given.

Trismus is generally the earliest of the symptoms to appear, increasing daily until the space between the jaws is often reduced to a mere chink. Attempts to open the mouth are excessively painful. This condition is probably due to irritation of the internal pterygoid muscle which forms the lateral boundary of the parapharyngeal space and possibly to involvement of the pterygomandibular ligament as well. (Uffenorde). Suppuration and destruction of the muscle may take place as shown by the autopsy report in a case of parapharyngeal infection following peritonsillar recorded by Wessely.

Fever usually begins simultaneously with the trismus or a short time afterwards. It may not be noted at first except in the late afternoon and evening; in a few days the patient often presents the typical picture of sepsis, with chills preceding and sweats following the changes in temperature. Generally, the rise is moderate, not exceeding from 101° to 102°F. Any considerable variation from this figure is suggestive of an additional complication.

A tender swelling of the upper part of the neck is usually noted at the end of the first week. Typically, this is present in the submaxillary region of the affected side, especially at the angle of the mandible which represents the surface projection of the palatine tonsil as well as the lower portion of the prestyloid compartment. The patient assumes a characteristic pose of supporting the head with his hands when asked to sit erect from a lying position. The only exception found was in Dubar's case in which the abscess pointed toward the subhyoid region (the author stated that he could not explain this on anatomic grounds). Recently, one of our patients returned at the end of two weeks with a deep cervical infection that pointed in the subhyoid region and required external drainage. Extension downward does not take place to any marked degree for several days in most instances. Upward spread over the mandible and face has been noted several times.

Pain in the neck and throat, occasionally referred to the ears, is a constant complaint. Severe headache may portend a basal meningitis according to Wessely. Edema of the fauces usually involves the uvula early, then the pillars and palate, giving the appearance of a peritonsillar abscess. Bulging of part or all of the tonsillar fossa is ordinarily one of the later signs. Leukocytosis is generally under 20,000. Adenitis of the submaxillary and anterior cervical group of lymph nodes on the affected side is always present but usually escapes notice because of the swelling in that region. Dysphagia though a characteristic symptom of parapharyngeal phlegmon is of little diagnostic value when following a tonsillar operation.

The course of the disease varies even in uncomplicated cases. Generally from two to three weeks are required for complete recovery. If the infection localizes and can be drained, the convalescence will be shortened.

MEDIASTINITIS is a rare complication, the result of extension into the compartments made by the fascial planes.

VASCULAR: The contents of the carotid sheath may be infected, the jugular vein becoming thrombosed with extension up as high as the cavernous sinus. A fatal hemorrhage has been reported from involvement of the carotid vessels and the showers of emboli will account for many of the complications, as distant as osteomyelitis, meningitis, parotid abscess and septicopyemia. I have seen three instances of an acute attack of appendicitis during the first postoperative days, any of which might have been embolic.

POST-TONSILLECTOMY PULMONARY ABSCESS

Pierson defines post-tonsillectomic pulmonary abscess "as that condition of the lungs characterized by consolidation and necrosis which follows shortly after removal of the tonsils. Consolidation and abscess are possibly different stages of the same process, and hence many so-called ether pneumonias might be included in this study."

Etiology—The complication generally begins from 24 to 48 hours after operation and is characterized by fever, sweats, anorexia, malaise and paroxysm of cough, terminating in from 10 to 14 days with foul expectoration. There are three generally accepted theories as to the cause of this condition:

(1) Aspiration of blood, mucous and bacteria from the mouth. Myerson studied two hundred patients after tonsillectomy under general anesthesia and found blood and mucous in the trachebronchial tree in one hundred and fifty-five, although none of this series developed pulmonary abscess. Experimentally, if the pharynx and base of the tongue have been deeply anesthetized and the swallowing reflex abolished, material from the mouth will flow directly into the lungs.

(2) Embolism — Holman, Chandler and Cooly, Cutler, Holloway, Schlueter and Weidlein experimentally have produced pulmonary abscess by setting free infected emboli in the jugular vein. Schlueter and Weidlein compiled reports of 1908 pulmonary abscesses; they found that 29.61 per cent were postoperative and 8.3 per cent post-tonsillectomies. Lyman reported 20,000 tonsillectomies under nitrous oxide anesthesia without a single known abscess; Hedblom, 20,000 at the Mayo Clinic with two known abscesses; Moore, 450,000 with 202 abscesses and Herb, 12,045 tonsillectomies under general anesthesia with two known abscesses.

(3) Infection by way of the lymph stream from needles and sutures.

Bacteriology—Streptococci, staph-diplococci spirochetes, fusiform bacilla, vibrics and cocci comprise the usual flora.

Symptoms and Physical Signs—Some authors have tried to differentiate the type of abscess—aspiration or embolism—by the history—a constant dry cough beginning immediately after operation suggests an aspirated foreign body. If the complication begins suddenly with sharp pleuritic pain, it suggests an embolic affair. Accompanying the cough and expectoration there are malaise, chills, fever, sweats, pain in the chest, anorexia and loss of weight. The physical signs may be present even in a well developed case due to the fact that there is a cushion of relatively normal lung separating the diseased process from the visceral pleura. Dullness is the most constant sign accompanied by diminished harsh breath sounds, whispered voice is increased and a few post-expiratory rales are heard. If cavity formation is present, cracked-pot resonances and amphoric whisper may be present.

Treatment — (1) Medical treatment will cure about 50%, which means prolonged rest in bed, abundance of fresh air, high caloric diet and postural drainage. If the infection is spirochetal, sodium cacodylate should be given.

Recently, a lad, B.B., aged seven, was brought in by his mother with the history that the boy had a tonsillectomy ten days before. The operation was performed in the doctor's office and the child allowed to return home, a distance of ninety miles in the family automobile. Two days later he began to cough and the cough remained constantly while the child was awake and intermittently while asleep. Examination of the throat revealed a fair tonsil operation.

Roentgenological examination on September 8, 1938, of his chest showed a marked accentuation of the hilar shadow on both sides with a marked increase in the peribronchial markings, radiating symmetrically throughout both lungs and extending almost to the periphery. There was, however, no active parenchymatous involvement, nor pleural effusions. The heart was within the upper limits of normal in size and regular in outline. From radiograph the condition was due to a generalized lymphatic infection, etiology — undetermined. Re-examination on September 21, 1938 still showed accentuation of the hilus and an increase in the peribronchial markings, but these changes were much more discrete and showed definite evidence of resolution. The heart was not quite as large as in the previous examination.

The hemogram was: hemoglobin, 76%; R.B.C., 4,360,000; W.B.C., 10,300; Polys 72%: lymphocytes 28%.

The child was hospitalized and given a therapeutic course of sulfanilamide. The cough gradually grew less and his temperature subsided and he made an uneventful recovery.

(2) If medical treatment is unsuccessful, repeated bronchoscopies should be done and at times surgery must be resorted to.

PREVENTION OF PULMONARY ABSCESS

(1) Careful preoperative examination of lungs for pre-existing pathology—bronchitis, tuberculosis, acute respiratory infection, etc.

(2) Careful mouth hygiene, extraction of bad teeth, removal of tartar and scaling of teeth before operation.

(3) Anesthesia—local if possible.

(4) Suction apparatus.

(5) Avoidance of tissue damage at time of operation, which favors thrombus formation.

(6) Postoperative meticulous care of the mouth and throat after operation.

(7) Administration of sodium cacodylate in all Vincent's patients.

ADENOID

Hemorrhage is the most common complication of the adenoid operation. A clean removal is less likely to bleed than when tags remain. Deep cuts by poor instruments injure the deeper vessels. The contraction of the superior constrictor muscle is nature's method of controlling adenoid bleeding, hence a rapid recovery from the anesthetic is desirable. Tying persistent bleeding points in the fossa of the adenoid is possible. A purse string suture placed immediately below the cut margin may be utilized to stop severe bleeding, but the percentage of postoperative hemorrhage is increased the fifth night, when this procedure has been necessary. Continued postoperative adenoid hemorrhage demands a postnasal tampon, whose use is a risk because of the incident of acute middle ears.

The adenoid at times bleeds a little each day. A severe late hemorrhage occurring at night requires a thorough awakening of the child and a cleaning out of the postnasal clot with the administration of pituitrin, and at times a postnasal pack.

Inhalation at operation of a part or the whole adenoid has occurred with more or less serious consequence. This was more common in the days of its removal by the curette. Infection of the adenoid operative space will cause an acute otitis media.

BAD RESULTS

The worst complication of a tonsil and adenoid operation is a poor result. Recent statistics by Campbell of a study of applicants to a training school revealed that the end-results of the majority of such operations fail for the greater part to be considered perfect. The most common sequelae are reformations, the result of incomplete removal of the tonsils. The reformation of adenoid tissue may be excused as the aftermath of a postnasal drainage from sinusitis.

Mutilation of the pillars and amputation of the uvula destroys the wiping function of the soft palate. Injury to the styloid process causes unnecessary and protracted pain. Extreme scarring following destruction of the posterior pillar may close off the Eustachian tube with subsequent loss of hearing.

CONCLUSION

The law of tonsil and adenoid operation should be the complete removal of the tonsils and the adenoid, "all this tissue and nothing but the tissue."

Ophthalmic Surgery*

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THERE IS A considerable array of factors which must be overcome in the establishing of a successful eye clinic where none has existed hitherto. This is particularly true in this locality, when those for whom it is designed to serve are handicapped mentally to some extent and financially even more so.

Probably the greatest of these factors is ignorance—ignorance of the availability of modern day miracles of surgery which restore sight to the blind, ignorance of the danger of progressing pathology and the necessity of its early arrest, and of the essentialness of treatment without intermission or immature cessation.

In the negro race, which furnishes 75.6% of the surgical cases and approximately the same percentage of those seen in the clinic, there is also the element of superstition, identical twin sister of ignorance. It is not uncommon to find the eyes of an infant irrevocably damaged by interstitial keratitis, because of the misplaced faith of the mother who has been carefully instilling breast milk until the time during which effective help could have been administered has passed. Negroes, thrust into the disadvantages and hardships of our civilization only two centuries ago, possess not only this unreasoning fear of the unknown or mysterious, but an unusual tolerance for pain and discomfort, which coupled with an unconcern of various tumor masses located on or within their bodies and complete absence from worry and superb procrastination, furnish a fertile culture medium for the growth of various deleterious organisms and excellent laboratories for discovering the degree to which pathological physiology can develop. Almost all of the patients, both black and white, live in rural communities and at some distance so that their poor economic condition prevents not only difficulty in securing of the funds for purchasing prescribed drugs, but even in obtaining transportation to the clinic. Syphilis, not only the specific cause of many eye diseases, colors the progress of all others a more sombre hue, and because of its inheritable as well as contagious nature, is an important cause of the lowered mentality; and unfortunately, the lower the mentality, the more prone is the diseased individual to stop receiving treatment as soon as the symptoms or signs are relieved.

Nearly four years of continuous and laborious work in a bi-weekly out-patient clinic and weekly operative clinic have passed. There has been no attempt made by the clinic to solve, although they handicap greatly its function, economic problems such as transportation, for they have been considered to lie outside of its province; nor has there been any effort exerted to carry on a campaign of general aducation. But with individual cases, greatly benefited themselves, serving as an example, inroads have been made into the fields of ignorance, and the futility of superstitious charms has been demonstrated. Not only has the weekly volume of patients treated increased greatly but now many apply for treatment in the initial rather than the late stages of their diseases.

The presentation of statistics is usually fatiguing, often annoying, but in this resumé, they are necessary to establish certain items of interest, and therefore, have not been omitted in the following classifications of the 165 surgical procedures.

1. **Cataract extractions 40 (negro 28, white 12); Preliminary iridectomies 4; Discissions 3.**

The technique used in 36 of these combined an iridectomy with the extraction, the other four being done following a preliminary iridectomy. While the latter mentioned method is preferred, the economic factor, both of the patient and of the state funds, forces the more rapid correction of the abnormality. Ten of these cases were deemed suitable for intracapsular delivery and this was accomplished successfully in eight. Hypertension was controlled in several of the cases by sedation and in a few, venesection; diabetes was present in six of the patients and the diet was corrected and insulin used to keep the blood sugar as close as possible to the level of 100 mg. Twelve of the cases had syphilis, and it was found that in the advanced cases, six weeks of intensive treatment did not provide enough margin of safety, a better desideratum being a minimum of three months. Records have been kept of the visual acuity obtained with correction, and a surprisingly larger number received vision of 20/20 and J. The surprise is in no way due to the surgery performed, but to the small number of cases in which the complicating diseases caused untoward results. The ingenuity developed by some of the individuals in obtaining the necessary money to purchase cataract glasses was always interesting and exhibited a surprisingly large fund of mental resources.

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*Read before the Issaquena-Sharkey-Warren Counties Medical Society, April, 1940.

2. **Glaucoma 30 (Eliot trephines, 12, iridectomies, 8, iridencleisis, 3, and iridodialysis, 1; paracentesis, 1, enucleations, 5).**

Attention is not often called to the prevalence of this disease among negroes, who make up 22 of the cases above. Yet, even these do not represent but a small number of those seen with this condition in the clinic, and who have used miotics as prescribed, but who have such a dread of surgery that they not only fail to appear at the time of their operation, but do not return to the clinic until long afterward, when blindness or near-blindness has ensued. It can be seen that the procedure of Eliot's trephine was preferred and indeed three of the iridectomies were done after the excessively friable conjunctival flaps for the trephine had become torn, the others being used for acute glaucoma cases. In the negro, the corneo-scleral button does not fill in with connective tissue, which is, in our experience, the unhappy fate of other types of glaucoma-controlling surgery. Six of the trephines have now been maintaining themselves at normal or subnormal tension, and with no decrease in the visual fields, for over three years the others having been done more recently, for a lesser period of time. The enucleations noted above were performed for those eyes fixed in absolute glaucoma, usually painful.

McReynolds procedures for pterygium, 23.

This represents only a small number of the cases, for this abnormal ocular condition occurs very frequently among the type of individuals who attend the clinic. As would be expected, these very often have progressed until a large portion of the cornea has been covered. Those cases in which the process has just begun were not referred to the operating room as were the advanced ones noted numerically above, but the standard procedure of McReynolds was performed in the out-patient clinic.

Enucleations, 33 (exclusive of those done for glaucoma) eviscerations, 1.

The majority of these were necessitated by lacerations from razors and gunshot wounds and the rest from old corneal ulcers, etc. None of these patients could afford the purchase of expensive implants, and so an ordinary playing marble was sutured within Tenon's capsule in twenty-seven. Continued follows-ups have shown no ill effects from the use of these and in only one case, a white male 45 years of age, who developed a severe conjunctivitis, six months following the operation, was one extruded. In the several where a prothesis was secured, it was found that the motion afforded was excellent.

Plastic of Globe, 7; Plastic of eye-lid, 6.

These were necessitated, for the most part by lacerations, also. The first of cases consisted mostly of these in which the protruding irides were divided, and purse-string suturing of the mobilized conjunctiva was done, while in the latter Kuhnt-Zymanowski and different ptosis techniques were done.

Miscellaneous, 18; dacryocystectomy, 3; Kronlein resection of the orbit, 3; Jamieson recession of rectus muscle, 2; muscle tucking, 2; Saemisch section, 2; tumors, 6.

Of particular interest in this group are the two Kronlein procedures, one of the retro-orbital tumors was found to be an extension of a carcinomatous growth of the brain which terminated fatally, and the other, which was filmed, a hemiangioma, removal in capsule and cured.

SUMMARY

The 165 surgically treated ophthalmological cases, preponderantly of the negro race, of the Mississippi State Charity Hospital at Vicksburg are reviewed, indicating in general the type of ocular pathology seen in this state. Of particular note in the cataract group is the contraindication of syphilis which has been

treated for too short a period; and the frequence of glaucoma, usually unrecognized until the late stages have ensued, is mentioned. The trephine devised by Eliot offers, in the essayist's opinion, the best choice for control of elevation of tension. The incidence of pterygia among the clinic patients is, as elsewhere, very high. An original contribution, in which ordinary agate marbles have been used successfully as orbital implants after enucleation, is described. Considerable ocular trauma from altercations among negro citizens has been responsible for the large portion not only of these enucleations but also of plastics on the globe and lids; and among the miscellaneous grouping are 3 retro-orbital tumors, one of which was malignant. While the individuals accounted for the numerical classification above have been immeasurably benefited themselves, it is to be hoped that this is only the first step in the general alleviation of the predisposing factors that cause blindness and ocular disability in this area.

Indications and Contraindications for Fever Therapy

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MEMPHIS, TENN.

Although fever is as old as man, although the alleviating and beneficial effects of heat have been recognized for some 3000 years, it is only within the last ten years that we have had at our disposal a mechanical means of producing a controlled increase in body temperatures. Within a short space of time great strides have been made along the lines of artificial fever administration through several channels, namely, improvement of the diathermy apparatus, research into the physiological aspects of fever therapy, keener interest in the pathology of various diseases considered as perhaps responsive to hyperpyrexia, and the development of new means of producing fever. Of these newer methods, two excellent and efficient types of cabinet stand out pre-eminently in efficiency, control, and safety. These types are, first, the inductatherm, which employs magnetic induction fields plus heated, humidified air within the cabinet in maintaining desired temperatures. The second type, the hypertherm, which is employed in the Gartly-Ramsay Hospital fever therapy department, does not utilize magnetic fields or other electrical means, but operates by creating an environment within the cabinet of circulating highly humidified air which is heated while being humidified. The principle of this cabinet is to create an environment into which no heat can be radiated by the body, with the result that metabolism creates the patient's fever, together with heat transfer by conduction from the circulating, humidified, warmed air. Both cabinets are thoroughly reliable in trained hands, and will produce results if judiciously employed.

Now judicious employment of any means of therapy demands a thorough understanding of indications and contraindications for such therapy, so it is to these that attention is now directed. Physiological and pathological principles rather than economic ambition should determine these indications and contraindications. Walter F. Simpson, of Dayton, Ohio, brilliant pathologist, scholar and pioneer in fever therapy research, sums up these most effectively. I quote from him: "Unless the greatest care is exercised in the selection of patients for artificial fever therapy serious difficulties will be encountered. In many respects, criteria are similar to those used for elective major surgical operations. All patients should be subjected to a complete diagnostic survey, not only to determine the extent of the disease for which fever therapy is contemplated, but also to measure with all means available the functional capacity of each patient to undergo this form of treatment. Such studies are best carried out in the hospital. Since the director or the fever therapy department must assume the responsibility for the welfare of the patient during the course of fever treatments, the survey should be carried out under his direction or with his collaboration.

"Particular attention must be given to the functional capacity of the cardiovascular system, kidneys, lungs and liver. Since a large number of the patients who are suffering from chronic diseases which respond to fever therapy are past forty years of age, the urgent necessity for such precautions is apparent.

"In addition to the recording of a detailed history, and carrying out a thorough physical examination, all indicated laboratory diagnosis procedures should be utilized. Minimal laboratory studies should include a complete blood count, erythrocyte sedimentation rate, urine analyses, an electrocardiogram, a roentgenogram of the chest, and chemical examination of the blood.

"In determining contraindications for fever therapy, due regard should be given in each case to the extent and severity of the disease to be treated, and the amount of fever therapy which would be required. If the patient is suffering from a disease which ordinarily responds to a few treatments at relatively low fever levels, the criteria for determining eligibility may be somewhat less rigid than those demanded for the treatment of diseases requiring prolonged fever sessions at high temperature levels.

"The existence of active tuberculosis, essential hypertension, aortic aneurysm, cardiac decompensation, coronary heart disease, renal or hepatic insufficiency, advanced arteriosclerosis, advanced organic brain disease, cerebral thrombosis or hemorrhage, or marked emaciation are regarded by most workers as distinct contraindications for this form of treatment. Rheumatic heart disease was formerly regarded as a contraindication, but there is now some evidence that minimal or moderate degrees of rheumatic carditis may be benefited by fever therapy. If the need for fever therapy is urgent, pregnancy is not a compelling contraindication; several instances have been recorded of the successful treatment of pregnant women, without interruption of pregnancy, and without injury to the child.

"The age of the patient is a most important consideration. Generally speaking, patients above sixty years of age should be selected only after the most painstaking investigation. With skillful nursing care, most children tolerate the treatments very well."

In considering clinical applications, one again must understand the pathology of the disease proposed for treatment. For example, consider disease of the nervous system: destroyed nerve cells are forever destroyed, and are replaced only by scar tissue. It would therefore be absurd to expect hyperpyrexia to produce recovery in organic brain diseases characterized by widely disseminated cell destruction. On the other hand, one must determine whether or not the pathology may reasonably be expected to respond to hyperpyrexia, which works in at least four ways, first, by producing thermal death of organisms causing the disease, second, by attenuating these organisms, third, by stimulating bodily defenses, and, fourth, by increasing vascular capacity and blood supply in the affected area. If the disease to be treated is regarded responsive on any one or more of these bases then that disease is eligible, theoretically.

Scientific research and practical use determine the efficacy of any therapeutic procedure. Review of the literature of outstanding research centers and clinics on the subject of fever therapy emphasizes that relatively few diseases are definitely responsive to hyperthermia. In selected cases these include central nervous system lues, infectious chorea, acute and chronic gonorrhea, gonorrheal arthritis, rheumatic arthritis, acute nonspecific arthritis, ocular manifestations of lues, and undulant fever. Please bear in mind that even in these specified diseases fever therapy is used only as an adjunct to accepted forms of therapy; for instance hyperpyrexia plus chemotherapy in syphilis, plus sulfanilamide in gonorrhea, plus salicylates in arthritis, etc. Diseases placed in less favorable light include meningococcic infections, asthma, neuritis, and non-specific ocular infections. Among those tried and virtually abandoned in most of the leading fever departments are hypertrophic arthritis, multiple sclerosis, parkinsonism, ulcerative colitis, subacute bacterial endocarditis, tuberculosis, and dementia praecox.

No doubt as time passes there will arise new indications and contraindications for this form of therapy thus making other diseases eligible, but for the present I consider it wise to limit our fever therapy to diseases universally accepted as responsive to it.

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SULFANILAMIDE EXTRAORALLY

Since the attention of the medical profession has been called so forcefully by Dr. Key of St. Louis, Missouri, in his article, "Using Sulfanilamide Powder in Compound Fractures," considerable attention has been directed in these parts in regard to its use.

In the next issue of the MISSISSIPPI DOCTOR, Dr. Dees calls attention to its use in the peritoneal cavity. It, of course, has its use beneath the skin in compound fractures that have been thoroughly cleansed and in the abdominal cavity. We have had no experience with its use in the pleural cavity, but it is of interest to note the rate of absorption and excretion in various individuals who have had this powder and a standard dosage on all placed in various cavities.

One individual who had previously had a biopsy of her breast with a grade IV report and infection following the removal of the tissue for section had a radical amputation of the breast, muscles and dissection of the axilla. 30 grams of the powder was placed in the wound and the skin closed without drainage on the 20th of June, with a concentration of the following:

June 21—6.3 mgm.
June 23—7.8 mgm.
June 25—9.7 mgm.
June 26—3.1 mgm.
June 27—.88 mgm.
June 28—.06 mgm.
June 29—none available.

This exemplifies the fact that this sulfanilamide was picked up over a period of several days in the blood stream and then it rapidly was disseminated. A large area of the chest wall offered points of absorption. In compound fractures sulfanilamide content with 15 grams placed in the fracture site after a thorough debridement seems to vary in its absorption and shows in some cases as high as 12 to 15 mgm. per cent on the second day and rapidly disseminated by the fifth or sixth day.

An individual recently treated who had a frank pyelitis, but also had every indication of a beginning appendicitis, which was proved at operation to be so, with a white blood count of 19,000 and 90% poly count, had her appendix removed, and since she would be unable to retain postoperatively any urinary antiseptic, 15 grams of sulfanilamide powder were placed in the peritoneal cavity and the sulfanilamide content of her blood ran:

1st postoperative day—12.5 mgm.
2nd postoperative day—9.7 mgm.
3rd postoperative day—7.8 mgm.
4th postoperative day—3.1 mgm.
5th postoperative day—.88 mgm.
6th postoperative day—0.5 mgm.
7th postoperative day—None with all pus and symptoms of pyelitis clearing up.

This seems to offer another new angle to the extra oral administration of the drug in the treatment of pyelitis when the abdomen has been entered either erroneously, or when the condition is known to exist and a peritoneal operation has to be done. Nothing in the literature points towards the use of this drug at this time in this manner to date.

Another condition encountered was that of a colored female who was thought to have an ovarian abscess or cyst which at operation was found to be an appendiceal abscess with the appendix thoroughly sloughed off and the ovary attached to the mass embedded in its wall. The pus in the cavity was aspirated and 15 grams of sulfanilamide were placed in the abscessed cavity. The sulfanilamide content of the blood was a follows:

1st postoperative day, June 30—1.9.
2nd postoperative day, July 1—1.4.
3rd postoperative day, July 2—.51.
4th postoperative day, July 3—.41.
5th postoperative day, July 4—.09.
6th postoperative day—July 6—.03.
7th postoperative day, July 7—Negative, patient discharged from the hospital.

Complications still can be avoided by the use of sulfanilamide in the pelvic cavity in chronic salpingitis on cases that have received conservative treatment and thought to be operable and free pus exuded into the pelvis on dissection of the pyosalpinx, by the administration of 15 grams into the pelvic cavity and no drainage as evidenced by a colored female operated June 24 with sulfanilamide content of the blood as follows:

June 25—4.5 gm.
June 26—1.55 mgm.
June 27—.61 mgm.
June 28—.06 mgm.

This is almost typical of the rate of absorption of this quantity of sulfanilamide placed into the abdominal cavity and leads us to believe that the most benefit derived apparently comes in the first 48 to 72 hours and that it is most unusual to find it necessary to administer the drug by mouth.

It is contemplated that more reports of the extra oral use of sulfanilamide will appear in the literature in a short while. No complications have been noted from the use of this powder which is easily assimilated in the presence of serum apparently anywhere in the body. The use of it in small wounds, as well as its use in the peritoneal cavity, is urged by us and it is earnestly desired to see more work reported generally in regard to this method of administration.

—L. W. L.

The Northeast Mississippi Thirteen Counties Medical Society will hold its third quarterly session in Amory on the second Tuesday in September. Amory is a splendid medical center. It is the home of Dr. G. S. Bryan, the medical spirit of the Thirteen Counties Society. He keeps his eyes on every line of important medical progress, both scientific and economical. And what is of further importance he studies the people, their needs and their reaction to their environment. Dr. Thomas Moore, of Memphis, is to be the guest speaker at the Amory meeting. The entire scientific program will be unusually good and we know from past experience that the fellowship and entertainment at Amory will be superb.

When nylon stockings appeared on the market, women breathed a sigh of relief. It seemed that hose troubles might be over and many other economy problems on the way to solution, the mineral kingdom having been invaded for such lovely wearing apparel. But, as usual, not all the glitter was gold. Dr. S. J. Fanburg, Newark, New York, has reported four cases of dermatitis in the AMERICAN MEDICAL JOURNAL of August 3, which he feels sure was caused from wearing nylon stockings. The dermatitis was traced to one special brand, however, and it is thought by the observer that the dye or finish in this special stocking was the cause of the special skin trouble. The nylon itself is probably not at fault, concludes Dr. Fanburg. No doubt there will be a way around this difficulty in this new chemical product that will prove to be of great economical value to our civilization, not only for hosiery, but for many other uses.

Should the tragedy of state medicine befall the people, it would be too bad if any of the blame could be justly placed on the medical profession. There is yet room for much improvement in the artful application of known medical facts. It is not only the duty of every doctor to possess a reasonable amount of medical knowledge, but it is his duty to apply it to the best advantage of his clientele. If a fifty-cent bottle of cough syrup is just as good as a three-dollar bottle, the fifty-cent bottle should be prescribed for the man who can not pay for the three-dollar bottle. Expensive x-rays should not be required for diagnosis when the simple clinical symptoms make certain the diagnosis, except of course, when the people demand it and have the money to pay for it. The Golden Rule should apply in the practice of medicine as in all other noble undertakings. The patient should be known in all of his relations to life in order to be treated scientifically and economically to the best advantage of all concerned. Medical problems should be kept in mind even in dealing with the individual. The men who are selected to practice medicine should have a professional mind, a medical soul, and a missionary heart. It is not enough to treat people by numbers in a totalitarian manner. Medicine needs religion as well as the nations of the earth. Democracy should still find a stronghold in the medical profession. Peace should always be carried in the right hand of the medical profession, as it strives to keep people fit to fight for democracy. The medical profession is informing its clientele on health problems, but the field of this opportunity has hardly been touched. The consumption of whiskey robs a nation of its freedom in time of war and its economical security in time of peace. It is responsible for one-half the motor vehicle accidents, killings and venereal diseases, but the medical profession has not yet had the courage to take much stand on it. This is just one problem. A strong and vigorous people should be the pride of the medical profession. We should ever keep in mind human values and should appreciate our opportunities to enhance them.

The population in Mississippi has increased about a hundred and seventy-five thousand. Mississippi probably has about one doctor to every fifteen hundred population, or one half the average of the United States as a whole.

At any rate we have not yet known of a good doctor being on the WPA. This is something to think about.

Just keep in mind the Mid-South Post-Graduate Medical Assembly which meets at the Peabody Hotel in Memphis in Feburary.

Dr. George Pack of New York City will be guest speaker on the surgical section of our state meeting next May at Biloxi.

Speaking in terms of medical service, a big percent of the people have a Packard appetite with a T-model pocketbook.

The Southern Medical Association will be waiting for you in Louisville, Ky. in November. The big hearted and able man of medicine, Dr. Authur McCormack of that city, will preside as president.

It would really be very beneficial for young doctors to know a few clinical symptoms and to recognize how a sick patient looks, but when the afternoons are out for golfing and the evenings for social pleasures he really just does not have the time to tarry with the afflicted.

A DOCTOR'S DAY

(Written by request by Dr. Stanley A. Hill, Corinth, for the August activity calendar of the Woman's Auxiliary).

A periodic check-up of the doctor would be a handsome boost in the efficient practice of the art of medicine. It is thought that in addition to the National Doctor's Day created through the efforts of Senator Bilbo a separate doctor's day should be instituted This day would not carry the approval of the U. S. Congress but would be promoted by the doctor's wife with the idea of providing better services. It would not be brought to the attention of the lay public but would be executed at or about the doctor's birthday. The present week is suggested as the best time for this year. This check-up would embrace both the doctor's own person and his equipment.

We preach, following the teaching promulgated by a former A. M. A. president, that every one should have an annual physical examination. With the insistance of our wives, we would more readily practice what we preach. A routine physical examination including blood pressure reading, complete hemogram, and urinalysis would provide a practical guide to the condition of health. It would show up beginning defects that should be corrected. It would indicate cases where other special examination would furnish help. It would be the "stitch in time that saves nine."

(Continued on page 164)

In the current issue of American Public Health Journal there appears a lengthy article, by Dr. R. C. Williams, chief medical officer FSA Department of Agriculture, on the subject of medical care of families of low income. While the approach to the subject is full of sophistry, one is forced to feel that the writer does feel real interest in these quasi indigents. But when he begins to develop the plans for furnishing this medical care, he betrays the fact that he is either ignorant of, or indifferent to, all the traditions and ethics that are, or should be, sacred to every member of the medical profession. It shows that his thinking is shot through with modern tendency to regimentation of all economic groups. Futhermore, he seems to have lost sight of all the high ideals that have been developed and proclaimed by our profession in the past. He seems to reach the point where he is willing to see the profession placed on a strictly commercial basis. This is made manifest when he considers only the financial aspects of his subject. He seems to think that doctors are interested in the percent of collections and the number of dollars received to the exclusion of all other phases of their life work. "Merciful heavens, have we fallen so low?" If this be true (God grant that it may not be), let us look at the suggested plans. He holds out but three plans that he considers feasible. We have heard of all these before, and all of them are fallacious and strictly commercial. The first of the three plans suggested is strictly a "club practice" plan where a definite sum is assessed against each family and "pooled" in the hands of the trustee. This amount is divided into twelve equal sums and is applied to all doctor bills that may be incurred during the current month—that is, it is prorated among the whole number of approved bills that are presented for the current month. He likens this plan to "life and insurance." He admits, frankly, that the reason for any interest in the matter on the part of the government is that the clients will be better able to meet their indebtedness to the government if their health is safeguarded than if it should not be. Hence this "insurance" scheme is proposed — not, however, compulsive insurance. But the author of the paper admits that the sum set apart and pooled does not pay more than 60% to 83% of the bills incurred. The sum assessed against each "client" family is suggested as $18.00. If the government proposes to go into the insurance business, and if $18.00 will pay 60%, why not porvide the amount sufficient to pay 100%? No sensible man would be expected to buy a life or fire insurance policy that proposed to pay only 60% of face of policy. A second plan, which he states is being abandoned, is that a definite amount be held out of the sum loaned to each family, this money to be paid on bills that are incurred by the family against whom is has been assessed. I see no special objection to this plan; for it allows each client family the unquestioned right to select any doctor it may prefer and it does guarantee prompt payment of some part of the bill incurred. But I would insist that in event that no medical expense be incurred by any individual family during any fiscal year that the money held out of his loan be given him or credited against his note. This is untrammeled freedom on the part of both patient and doctor.

The third plan suggested is, "that an association of security families—grouped together on projects—may employ one or more physicians on a salary basis to provide necessary medical aid." Of course, this suggested plan is pure BUNK. While it is pretended that each client has the privilege of selecting his own doctor, it is distinctly stated that no doctor can participate in the benefits of the plan who does not co-operate and that the $18.00 assessed must provide a full year's medical care. The statement is made that the plans are working satisfactorily wherever tried and the various states that are using these plans are named—including Arkansas. I wonder if this statement is absolutely correct? While at Jackson at the May meeting, I asked Dr. Smith, president of the Arkansas State Medical Association, about this. His reply was that "it is not satisfactory—it is a failure, a farce, and a fraud." My idea is that if the government must interfere in this matter because it is best that the health of these families be looked after in order that they may be better able to pay their indebtedness to the government, then let the government provide for full payment for medical care as it does for full payment for livestock and other supplies. At the same time the government must not be permitted to regiment those who render this care nor to interfere in any way with the selection of physicians to render this care. Again, doctors must not stoop to the low level that will permit club practice or salary basis for medical service rendered.

— G. S. B.

ADDENDA:

Since writing the above I have read in the Journal of the A. M. A., issue of July 20, the following: "Beginning April 1, 1939, eleven of the thirteen doctors in Avoyelles Parish, La., agreed to serve 250 families who joined the medical group of the Farm Security Administration out of 400 families receiving FSA assistance. Contributions varying from $10 to $24 per family were put into a fund from which to pay for medical services and drugs for a year. The patients had only to present their medical card to the doctors of their choice belonging to the parish medical society. The fees were nominally $2.50 for an office call and $3.50 for house calls, medicines included in both instances, twenty-five cents for each mile after two miles, $25 for obstetric cases, $5 for minor surgery and $25 for fractures. The total amount in the fund was $3200.00 divided into twelve installments of $266.50 each, which amount was divided among the physicians furnishing service in proportion to the amount of their bills rendered. The amount of the bills for the year was $5,800, of which the physicians received $3,200. This amounted to an average of 55% out of which the doctors had to pay for drugs, which amounted to about 35% of the amount collected, and left the doctor receiving about 36% of his fees. The average doctor booked $527 and collected $291, of which $100 went to a druggist. It was the unanimous opinion of the doctors represented in the Avoyelles Parish Medical Society that they could not make a living collecting 36% of these fees; they did not, therefore, feel justified in continuing the FSA plan. As a whole the patients did not abuse the service with excessive demands, and the doctors tried to keep necessary visits at a minimum and had as few house visits as possible. Since it was believed it would not be possible for this group to contribute any larger amounts, the doctors decided that they preferred to charge and collect from each patient as an individual."

—G. S. B.

With Our Doctors

The history of mankind is largely a history of men. The thing known as personality is the most powerful human attribute. The individual is still a great factor in human progress, but the order of the new era is demanding unity of effort of individualism. The profound truths in medicine are being discovered and developed more and more by the united efforts of the entire profession, one laying a brick of truth here and another a bit of concrete there and often a number co-operating to do the finishing work. There is good in every man, and from each man in the practice of medicine in this state you can learn a most valuable lesson, maybe a number of important facts. It is going to be the aim to renew our efforts in this journal to find out more about the individuals of the profession in our own and adjoining states and to let each doctor know about the other.

EUGENE MICHAEL HOLDER, M.D.

MEMPHIS, TENN.

Mississippi has no large cities of its own, but it has certainly done its share in contributing to the success of those of its sister states as Birmingham, Mobile, New Orleans, Nashville, and Memphis. Northeast Mississippi has furnished a surgeon to the Bluff City, on the Father of Waters down in Dixie, who is still young and active after passing his biblical allotment of years, who challenges the profoundest respect and who excites the fondest admiration of every person who really knows him. His ready wit and sparkling humor is a bubbling oasis to every student of human philosophy. His strict integrity in all of his relations in life sets an ideal for us all. His education, both literary and medical, is broad and thorough and the sum total of his experience in life constitute the elements that give birth to profound wisdom.

Dr. Holder's kind and sincere interest in other people and human affairs seems to enable him to glide over his own problems and vexation, so easily and so calmly that you cannot imagine that he ever has any.

He is really a lover of the outdoor life and very fond of travel. He declares he leaves the city often for a few weeks at a time so that his friends may have someone else to operate upon them without embarrassment.

For nearly half a century Dr. Holder has followed the profession of medicine in Memphis and for four decades he has limited his practice almost wholly to surgical work, in which he has developed a high degree of skill. He was born on a plantation in Lee County, Mississippi, October 3, 1869. His father, Colonel William Dunbar Holder, was a native of Kentucky. Col. Holder was a veteran of the Civil War, commanding the Seventeenth Mississippi Regiment, and he participated in many heavy engagements, receiving several wounds while in the service. He also represented his state in the Confederate congress during the early part of the war and after the cessation of hostilities served for two terms as auditor of public accounts for Mississippi, retiring from that office in 1896. He was one of the most prominent men in his state and his demise occurred at Jackson, Mississippi, in 1900. He married Miss Catharine Theresa Bowles, a native of Mississippi. In 1888 she was called to her final rest. Of their children, five are living. Dr. Andrew Bowles Holder, an elder brother of the subject of this review, was also a physician and his death occurred in 1896.

In the acquirement of an education, Eugene Michael Holder attended the public schools of Oxford and Jackson, Mississippi, and in 1892 he was graduated from the Mississippi Agricultural and Mechanical College, at Starkville, now the Mississippi State College, winning the degree of Bachelor of Science, taking four college years in three. He then entered the old Memphis Hospital Medical College, which conferred upon him the M.D. degree in 1894, and afterwards spent fifteen months as an interne at the United States Marine Hospital in Memphis. At the end of this interneship he matriculated in 1895 at the University of Pennsylvania Medical School. Later he was for eleven months a surgeon in the Merchant Marine Service, being assigned to steamers plying between New York City and Rotterdam, Holland. In July, 1896, Dr. Holder established his office in Memphis and engaged in general practice until 1902, since which time he has devoted his attention almost exclusively to surgical work. He was demonstrator of anatomy at the old Memphis Hospital Medical College. Later he was professor of surgery for many years in the College of Physicians and Surgeons which, with the Memphis Hospital Medical College, was absorbed by the University of Tenessee. In the latter teaching institution he was appointed chief of the department of surgery, later resigning this office, but continuing as professor of surgery (inactive). His studies and investigations have been most thorough, bringing him a comprehensive knowledge of surgery, and the sureness and decision of his work have won for him an enviable reputation as a surgeon. A large practice has been accorded him and in the discharge of his professional duties he is most thorough and conscientious.

In 1903 Dr. Holder married Miss Elvin Jordan, who was born and reared in Memphis and is active in social and musical circles of the city. She is a niece of W. J. Crawford, late president of the Memphis Commercial Appeal, and her father, the Hon. Richard D. Jordan, was president for many years of the Memphis Board of Education and one of the most talented attorneys of the city. He served as first referee in bankruptcy in Memphis, and also with distinction for eight years as Shelby County attorney.

Dr. and Mrs. Holder have become the parents of three children, two sons, Eugene Michael, Jr., and Richard Dudley, both graduates of Harvard College, and a daughter, Elvin Elizabeth, now studying at Duke University.

Dr. Holder is a broad-minded, cultured gentleman who has traveled extensively, having made twelve round trips to Europe, and in

1922 visited the surgical clinics in South America. He is a member of the several outing clubs, being particularly fond of hunting and fishing. He is an earnest and helpful member of Grace Episcopal Church, of which he is now a senior warden, and exemplifies its teachings in his daily life. He has made many valuable contributions to medical literature, notably among them a chapter in "Christopher's Textbook of Surgery." For many years he has been an associate editor on the staff of THE MISSISSIPPI DOCTOR. He is a member of the Memphis and Shelby County Medical Society, a senior charter member of the Memphis Surgical Society, Clarksdale and Six Counties (honorary for life), Tennessee State, Tri-State, West Tennessee Medical and Surgical, the Southern and the American Medical associations, and he is also a fellow of the American College of Surgeons. He has never been content with mediocrity but is inspired by high ideals. He is a man of forceful personality, of the strictest integrity and has ever sought to attain the highest degree of perfection possible in his work. His professional experience has been broad and varied and he is accounted one of the most skillful and successful surgeons in the South.

DR. EUGENE R. NOBLES

Dr. Eugene R. Nobles, Rosedale, Miss., president of the Mississippi State Hospital Association. The hospital association in Mississippi has made progress within the last few years. For a number of years Dr. Nobles has been very active in this organization. He has always been a splendid student and an energetic worker. The per capita distribution of funds for indigent sick is the most forward step yet made in this country to carry modern medicine to the masses at a cost at which it may be utilized and he did splendid work in securing this legislation. The Mississippi Hospital Association certainly has an able and enthusiastic leader in him.

Dr. Eugene R. Nobles was born November 26, 1889, at Flora, Madison County, Mississippi. He is the oldest son of William Bryan and Georgia Hammack Nobles.

He attended the public school at Flora and entered the preparatory department of Mississippi College at Clinton in 1902 where he was graduated in 1907 with a Bachelor of Science degree. He entered the medical department of the University of Tennessee the the following autumn where he graduated with an M. D. degree in 1911. After serving a year's internship at the General Hospital in Memphis, (now John Gaston), he went to New York where he spent the following year doing an internship in Kingston Avenue Hospital at Brooklyn and postgraduate work at the New York Post-Graduate Medical School and Hospital.

He began private practice at Rosedale in September, 1913, and has continuously remained there except for a period of service as First Lieutenant of the Medical Corps of the U. S. Army from July, 1918, to June, 1919.

After locating at Rosedale he soon became recognized as one of the leaders of the medical profession in the Mississippi Delta. He was president of the Delta Medical Society in 1927. In 1934 he was vice-president of the Mississippi Medical Association where he has served on a number of committees, chief of which was chairman of the committee that was responsible for the present State-Aid Hospitalization Law. In recognition of this service Governor White appointed him a member of the State Hospital Commission during his term of office.

He is actively interested in community and civic welfare, and is a charter member of the Rosedale Rotary Club, serving as its president in 1934.

Dr. Nobles is the husband of a very fine wife and father of an accomplished daughter.

DR. W. H. CURRY

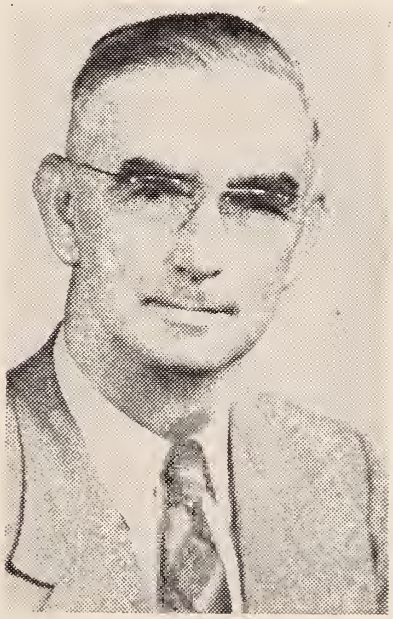
Dr. W. H. Curry, Eupora, Miss., vice-president of the Mississippi State Medical Association.

This year we have three very splendid men as vice-presidents. In this issue we are introducing you to Dr. W. H. Curry, of Eupora. We are proud of his faithful service in organized medicine. We really do not know of a doctor in our state who is more faithful in attending meetings of his local society and his state association. He thinks it is a part of his duty as a practitioner to attend these meetings, for his own good and for the benefit of his clientele. As a practitioner of medicine he feels the pull of his duty to his people. He loves to learn more that he may serve better. He believes that each doctor should give some time to organized medicine and feels that he is discharging a duty when he pays his dues and attends his medical societies.

Dr. Curry is a native of Webster County. He graduated from Bennett Academy in 1904 and taught in public schools of his county for two years. He received his medical degree from the Memphis Hospital Medical College in 1911. From 1911 to 1919 he practiced at Mantee, and at the conclusion of this period he moved to Eupora where he has been active in general practice ever since. He is one of the men who believe that the general practitioner yet has a fine opportunity to serve the people, and will have for years to come. We are going to ask Dr. Curry to write a paper on "The General Practitioner, Present and Future Opportunities."

Dr. Curry is not only an able and a safe practitioner, but he is a fine and a progressive citizen. There may be a little skepticism in some circles of our profession when citizenship is mentioned, but we believe that a man who takes part in the affairs of his town as does Dr. Curry that he is more able to serve his clientele as a doctor. The doctor should know his patient in all of his relations to life if he is able to give him the best medical service. He is a member of the Masonic Lodge, deacon in the Baptist Church, member of the Exchange Club, county health officer and now vice-president of the Mississippi Medical Association, northern district. His home life is very fine and he in a strong believer in Christian education.

DR. C. E. MULLINS



Dr. C. E. Mullins, Bude, Miss., vice-president of the Mississippi State Medical Association. Dr. Mullins is one of the very worthy and well-qualified practitioners of our association, able to carry any honor that might be bestowed upon him by the association. He is a native of Franklin County, Mississippi. He received his literary education in the public schools of his county and his college training at Millsaps, and his medical degree from the Memphis Hospital Medical College. He later took one full year in postgraduate work at Tulane University and then spent four years in the State Charity Hospital at Natchez where he served as interne, house surgeon, and superintendent. He served in the Army Medical Corps during the World War. After being discharged from the army in 1919 he located at Bude and has since then been actively engaged in general practice. With the training and experience Dr. Mullins has had his clientele should certainly be in safe hands. We feel sure they are. He no doubt could meet competition successfully in internal medicine in any city. In his discussion of membership and attendances he made some suggestions that are worthy of consideration. He realizes the importance of membership and attendance. He suggests that maybe we do not give our younger men enough to do, enough committee assigments, nor take as much interest in them as we might. As vice-president he is ready to do anything he can to promote the interest of the association.

DOCTOR'S DAY

(Continued from page 158)

When the doctor's physical health has been attended to complete the inventory further, consider the mental and social aspects. Is the doctor keeping active his religious affiliations? Does he find time to attend church? If he has a hobby encourage its development. If he has none aid in the establishment of one. Avocations provide rest from the strain of practice. In a hundred and one other ways the wife may aid her husband. Encourage regular, at least weekly, recreation schedule. Then perhaps the doctor's appreciation of the fine arts, including literature and music can be enhanced.

The other division of the program is the improvement in the doctor's equipment. Make a visit to the doctor's office, walk in, have a seat in the reception room. Now, does the building, the decorations, the furniture, and the degree of cleanliness reflect capability, efficiency, and success in the owner? Go into the treatment room and the rest of the suite and determine if you would like to be a patient in those surroundings. If so, compliment your husband. If not, discuss your suggestions for improvement and see what can be done about it. Draperies add much to the richness and atmosphere of comfort in any room. The doctor's wife should be much more capable in saying what draperies to use and how to harmonize the colors than he can.

In short, we want to stimulate an increased interest in your husband's work and enlist even a larger amount of help than given in the past so that both you and he may render more efficient service to the community and in turn receive a larger helping of the joy of living.

THE SCRIBBLERS COLUMN

For some time the editor-in-chief has, in order to add spice to the journal, favored the establishment of a department devoted to brief paragraphs on miscellaneous subjects that would be of general interest. Dr. Stanley A. Hill obligingly collected the following:

This marks the beginning of a department in which one paragraph may be humorous, another informative, and another describing a home remedy.

Dog days begin July 25 and last forty days. "Old folks say" that a sore beginning in this period will not heal until it ends!

* * * *

Dr. Frank H. Lakey, president-elect of the A. M. A., is an enthusiastic bird hunter.

* * * *

Painless uterine hemorrhage during pregnancy may indicate a dead fetus rather than the more frequently feared placenta praevia or premature separation of the placenta.

* * * *

Appendicitis may be a mistaken diagnosis when the condition actually is a seasonal gastro-enteritis.

* * * *

Mortality is reduced in a perforated appendicitis case by delaying the drainage operation approximately ten days when the abscess will be better walled off and localized.

* * * *

To save the patient's life the diagnosis of perforated peptic ulcer must be made early. The patient has the best chance of surviving if laparotomy is done within the first four hours.

* * * *

Salient symptoms of a perforated abdominal viscus are muscular rigidity and inability to relieve the pain with large doses of morphine. The patient may be able to walk and stir around contrary to the standard textbook teaching that he lies perfectly still in a "frog position."

* * * *

Syphilis of the stomach may be confused with carcinoma.

BANG'S DISEASE

The counties of northeast Mississippi are joining hands to rid their cows of Bang's disease. This is a step in the right direction. It seems that Tennessee is forbidding the bringing in and selling of our cattle in their territory. The dairy industry is the corner stone of diversified farming in Mississippi, especially in the northeast quarter. Bang's disease is actually destroying many of our cattle values. It is estimated that the efficiency of dairy cattle is reduced to twenty-five per cent when infected with this disease. The loss in cattle and their offspring due to the "contagious abortion" in the United States is enormous. In Wisconsin alone in 1920 is was estimated at three and one-half million dollars. The disease is also found in goats and hogs. Goats seem to have the disease without any symptoms. Brucella suis, the hog strain of the organism, seems to be more virulent to man than the cattle strain, Brucella abortus, according to Dr. Cameron of the University of Tennessee in his new book. So it is very important that pork be well cooked. We must remember also that the goat is not as free of disease as we have often pictured him. There is no definite plan that we know now to attack the disease in the hog and goat. The problem right now is to clear this section and finally our state of Bang's disease in cattle because of money loss and because undulant fever is a quite common occurrence in our state . The United States Public Health Service in 1931 in listing sixty-one diseases in frequency of occurrence, placed undulant fever twenty-fourth. Undulant fever has its train of symptoms, fever, insomia, night sweats, anemia, lack of energy, loss of appetite and strength, arthritis, et al. It often lasts for weeks and even months. It is trying on the patience and reserve of the patient and expensive because of the length of its course. About fifty per cent of the cases are found among people who in their work are associated with animals, it is claimed by good authority. Children are not affected nearly so often as adults, although they drink more milk. The cause of this seems not to be known. The disease apparently does not spread from man to man. Raw milk from one infected cow is more likely to serve as a source of infection than from the herd, unless the herd carries more than twenty per cent infection. Some authors suggest that when pasteurization is universally used that future generations will become more susceptible. We would prefer protection and take care of the future later, we think.

There is no specific treatment for the disease, just rest and good care. The eradication of the disease must consist in the main in finding the infected animal and in destroying it. The government will pay for the destroyed cattle. The elimination of contagious abortion from our herds is an important economical and health problem. Every member of the medical profession and each county health officer should be especially interested in this accomplishment, as well as every person interested in milk production and the dairy industry. We must heartily commend our board of supervisors for their cooperation with adjoining counties to clear our cattle of Bang's disease, as we did of the cow tick.

—The Booneville Independent—

News and Comments

Dr. Fred M. Sandifer, Jr., announces the opening of his office for the practice of surgery on July 1, 1940, 110 East Market Street, Greenwood, Mississippi. Hours 10 to 12 and 2 to 4. Office telephone 36, residence telephone 327.

Sun glasses should be worn only when you are in the bright sun and should not be used for night driving, says Dr. Arno E. Town, of New York City, in a current issue of THE SIGHT-SAVING REVIEW.

The sixth annual meeting of the Mississippi Valley Medical Society will be held at Rock Island, Ill., September 25-27. Dr. Van Etten, of

New York, president of the American Medical Association, is scheduled to speak at the annual banquet on September 26.

The Physicians Postgraduate Press, publishers of "Diseases of the Chest," "Diseases of the Nervous System," and "The Sanatorium Diget," announces the opening of offices at 500 North Dearborn Street, Chicago, Illinois. The American College of Chest Physicians will also maintain offices at the above address. Please address all mail to the above address.

American Museum of Health at World's Fair, New York, announces that medical authorities are experimenting with the "intravenous drip treatment" known as "five-day cure"—and hope to have the complete discoveries available for the inquiring public in the near future.

Dr. John F. Casey, of Boston, Mass., visiting physician, St. Elizabeth's Hospital, won the third annual contest of the Mississippi Valley Medical Society. The subject of the paper is: "A Study of the Use of Sulfapyridine and Sulfathiazole in Pneumonia with Particular Reference to the Treatment of Pneumonia by the General Practitioner."

Northeast Mississippi District Nurses Association held its quarterly meeting at the Northeast Mississippi Hospital, Booneville, Mississippi., July 12. Rev. Gage, pastor of the Presbyterian Church, delivered the invocation. Dr. W. H. Anderson extended the welcome which was responded to by Mrs. W. E. Geyer. Dr. W. H. Sutherland read a paper on fractures and Mrs. Alice Finley, R.N., gave a most interesting report on the American Nurses' Association. "The Spirit of Nursing" was the subject of a most interesting paper by Genevieve E. Noble, R.N., and Mrs. W. E. Coyle, R.N.

The Fenwick Sanitarium is celebrating its fiftieth anniversary of continuous operation for the care of nervous, mild mental and drug and liquor patients.

It was founded by Dr. Frank Fenwick Young at Abbeville, Louisiana, in 1890 and was moved to Covington, Louisiana, in 1912.

Dr. F. F. Young is in complete charge of the operation of this institution and is assisted in this work by several of his sons.

This institution is registered by the American Medical Association, a member of the American Hospital Association, National Association of Private Psychiatric Hospitals and Louisiana State Hospital Association.

Dr. J. S. Thompson, pioneer Stephens physician and a past-president of the Ouachita County Medical Society, died at his home Wednesday night. He was 83.

He had practiced at Stephens since 1880, and took an active part in civic affairs of this section. A son and grandson are practicing physicians now.

Dr. Thompson served as president of the Stephens School Board for a number of years and also as chairman of the Board of Stewards of the Stephens Methodist Church some years ago. He was a former president of the Bank of Stephens.

He is survived by three daughters, Mrs. J. R. Hammond of Stephens, Mrs. John F. Lewis of Mount Holly and Mrs. J. K. Thompson of Fort Smith, and a son, Dr. S. A. Thompson of Camden, and seven grandchildren and three great-grandchildren.

Sulfathiazole has been released for sale by E. R. Squibb & Sons, New York, in the form of 0.5 gram scored tablets for oral dosage and in crystals for compounding prescriptions and for determination of blood concentration.

Sulfathiazole has received extensive clinical trial and is a noteworthy advance in the chemotherapeutic treatment of pneumococcal and staphylococcal infections. It is the third of the "sulfonamide derivatives" to be released for sale by Squibb, the others being sulfanilamide and sulfapyridine. Sulfathiazole is believed to have the following advantages over sulfapyridine:

1. More uniform absorption.
2. Less conjugation after absorption, so that a higher proportion of the total drug in the body-fluids is chemotherapeutically active.
3. Less tendency to cause serious nausea or vomiting.
4. Greater effectiveness against staphylococcal infections.

Sulfathiazole Squibb is supplied in bottles of 50, 100 and 1,000 0.5 gm. tablets and 5 gm. vials of crystals.

AMERICAN COLLEGE OF SURGEONS PUBLISHES MANUAL OF GRADUATE TRAINING IN SURGERY

Pursuant to its aim of raising the standards of surgery, the American College of Surgeons has published a 24-page "Manual of Graduate Training in Surgery" in which are incorporated the requirements for its approval of programs of training in general surgery and the surgical specialties in hospitals of the United States and Canada.

The "Manual" is the outcome of ten years of study of educational programs in surgery by the Board of Regents and several committees of the College. In 1937 the Committee on Graduate Training in Surgery was established under whose direction the field staff of the College personally surveyed a selected group of hospitals in connection with the work of the Hospital Standardization Department. Based on the findings of these surveys, "Fundamental Principles and Criteria" were developed which have been applied in evaluation of plans for graduate training in surgery. The plans of 179 hospitals have so far been approved by the College. The new "Manual" is an elaboration of the "Fundamental Principles and Criteria" and will in the future be applied in determining eligibility for the approved list to be published in the Approval Number of the College BULLETIN in October of each year.

The College recognizes three principal types of institutions as offering acceptable programs of graduate training in surgery: (1) universities or teaching hospitals supervised by departments of surgery of medical schools and graduate schools; (2) fellowships in recognized clinics and other organized groups; and (3) selected hospitals which by utilizing their own facilities to the fullest are able to carry acceptable programs through to completion, or which have supplemented their educational program, particularly in the basic medical sciences, through affiliation with medical schools and graduate schools.

The Minimum Standard for Graduate Training in Surgery which is included in the new "Manual" comprises five clauses, concerned with (1) duration and objective of the program; (2) organization and supervision; (3) basic medical sciences; (4) clinical material and (5) organized study.

Under the requirements, an acceptable program requires a minimum of two and preferably three or more years of training in surgery, beyond at least one year of general interneship. Such preparation is now necessary in order for an applicant for fellowship in the American College of Surgeons to meet the qualifications in respect to training, as set forth in the following resolution passed by the Board of Regents on May 10, 1936:

"Applicants for fellowship whose qualifying medical degree shall have been obtained after the date of January 1, 1938, shall be required to present evidence of having completed three years of hospital service in one or more acceptable hospitals, of which two years shall have been spent in training in surgery in hospitals approved by the American College of Surgeons. In the case of graduates of medical schools which withhold the medical degree until after the fifth year of hospital interneship, the date set will be January 1, 1939."

Dr. Dallas B. Phemister, Chairman of the Department of Surgery, University of Chicago School of Medicine, is chairman of the Committee on Graduate Training in Surgery; the other members are Dr. Donald C. Balfour, of Rochester, Minnesota; Dr. John R. Fraser, of Montreal; Dr. Albert C. Furstenberg, of Ann Arbor; Dr. W. Edward Gallie, of Toronto; Dr. Harry S. Gradle, of Chicago; Dr. Evarts A. Graham, of St. Louis; Dr. Howard C. Naffziger, of San Francisco; Dr. Gilbert J. Thomas, of Minneapolis; and Dr. Allen O. Whipple and Dr. Philip D. Wilson, of New York City. Much of the field work and direction of the study has been carried on by Dr. Harold Earnheart, Assistant Director of the College, in collaboration with Associate Directors Bowman C. Crowell and Malcolm T. MacEachern.

THIRD DISTRICT HEALTH OFFICERS' SOCIETY MEETS

The Third District Health Officers' Society met in the Board of Supervisors' room at the courthouse in Belzoni. The meeting was called to order by Dr. L. B. Austin, president. The minutes of the last meeting were read and approved.

The following members were present: Dr. L. B. Austin, Rosedale; Dr. B. A. Stafford, Rolling Fork; Dr. C. R. Gillespie, Indianola; Dr. J. W. Barkley, Belzoni; Dr. J. P. Ward, Greenville; together with the following visitors: Dr. A. L. Gray, Jackson; Dr. Gibbons; Dr. Harper; Miss Emma Turner, Greenville; Miss Haskell, Indianola.

Miss Emma Turner, Supervisor of Nurses,

Washington County Health Department, read a most interesting and well prepared paper on "Syphilis Epidemiology From a Nurse's Point of View." Miss Turner stressed the importance of coming to a frank understanding with the patient as to the importance and infectiousness of syphilis. She said that syphilis epidemiology should be carried on in the same manner as the epidemiology of any other communicable disease. She reviewed the method of approach and methods of contact tracing practiced at the Vanderbilt University Clinic.

Dr. Gillespie, director, Sunflower County Health Department, read a paper on syphilis epidemiology from a health officer's point of view. Dr. Gillespie pointed out that the two important questions in the epidemiology of syphilis as well as all other contagious diseases are: (1) from whom the patient received his infection; (2) to whom has he transmitted it. He pointed out that prior to New Jersey's efforts in 1921, no serious attempt had been made to trace contacts of syphilis. He emphasized the point that most private physicians are more interested in the relationship between the patient and physician, than in contact tracing. He also pointed the difficulties encountered among the Delta negroes because of their frequent moving from place to place, and their moral laxity. He also stressed the special importance of (1) early manifest, (2) prenatal, (3) congenital cases. These he called **must** cases, and should be followed and treated diligently. Other cases which are essentially noninfectious, he called **may** cases, in which the treatment should be left largely up to the individual.

He also pointed out the fact that since we do not have any social workers, the responsibility of contact visiting is left largely to the nurses and health officer.

Dr. Gray, in discussing both papers, pointed out the change of attitude of nurses and health officers towards the subject of syphilis within the past two years, and stated that in itself showed signs of progress. He said that out of case loads studied, only 15% to 20% of clinic cases would come under the classification of must cases, and that this number is small enough to supervise adequately. He said that treatment before lapse had increased from an average of six to seven to about fifteen within the past two years. He said that letters to delinquents have a definite part in the syphilis program. He also emphasized the importance of dark field examination.

Dr. Austin said that in a recent study made by him over 50% of the deaths in Mississippi are due to diseases of the circulatory system, and he estimates that about 25% of these are due to syphilis.

Miss Haskell said that the demand for treatment by the public is due to the good publicity work of health officers, and stated the importance of exhibitors to create public opinion.

Dr. Gray pointed out the fact that epidemic diseases always show an increase following mass mobilization, and that the health doctor's importance during such times is increased.

Dr. Austin appointed Dr. C. R. Gillespie to act as secretary during the absence of Dr. Ward.

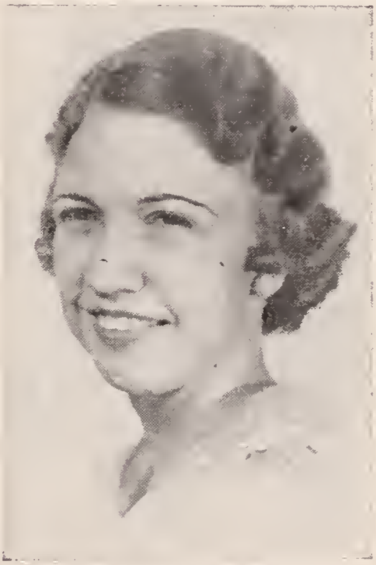
There being no further business, the society adjourned to meet in Greenwood, October 11.

BOOK REVIEW

THE BACTERIOLOGY OF PUBLIC HEALTH by George M. Cameron, Ph.D., Associate Professor of Bacteriology of the University of Tennessee, is one of the most readable, the most practical and helpful books we have seen recently. It sets forth the essential facts and does not burden the student with much that is not necessary. The author first gives a historical review of bacteriology of public health, then discusses the development and the progress of bacteriology. Sources of the microbial flora of the alimentary canal constitutes a most interesting chapter. Sewage disposal, safe drinking water, food infections are topics that are given due consideration. Pustular abscesses and septicemia come in for a most interesting discussion and for valuable information. Liberal space is given to "septic sore throat," scarlet fever, eresipelas and childbed fever as well as diphtheria, typhoid fever and measles. The bacteriology, transmission and diagnosis of venereal diseases is most interesting and informative. Malaria comes in for its share. The distribution, cause and treatment of rabies furnishes most helpful information. No man in the practice of medicine can afford to miss this most readable and informative discourse on the bacteriology of public health by this Southern author. The book is published by The C. V. Mosby Company, St. Louis, and the price is only $3.50.

Mississippi State Board of Health Medical Library

A recent view of the reading room of the Medical Library in the State Board of Health. The Library has grown rapidly during its four years of existence and has almost filled its shelves. With its 5500 volumes, it is serving daily the many calls from physicians, dentists, nurses, public health officials, and others throughout the state. The State Board of Health has always maintained a close working relationship with the medical and dental professions and this endeavor to supply medical library service is but another exemplification of its policy of cooperation. In the background will be noted a portrait of Dr. Felix J. Underwood, Executive Officer, painted by Karl Wolfe, and presented by fellow workers at the 1938 Mississippi Public Health Association meeting. Dr. Underwood's interest in better medical and health education facilities is well known, and this interest has played no small part in the organization and development of an up-to-date medical library to serve the needs of those engaged in health work throughout the state.



Miss Louise Williams
Librarian

The Mississippi State Board of Health is rapidly forming one of the very best medical libraries in the country. This is a fine piece of work. It bears the mark of the executive secretary, Dr. Felix J. Underwood, one of the nations ablest organizers. He knows how to pick helpers and to inspire them. He outdid himself when he selected Miss Louise Williams as librarian. She is diplomatic, has library vision, is obliging and never stops work. The State Medical Association and the MISSISSIPPI DOCTOR are deeply obligated to her for the splendid service she rendered in securing the data on Dr. Monette. This journal is indebted to her for preparing the index for the journal for two years. We know when she does the work it is as it should be and as standard libraries want it to be. She is not only suited by native ability in every way for this important work, but she has been thoroughly trained for it. We are positive that the medical profession of this state deeply appreciates her efforts.

MEDICAL LIBRARY

MISSISSIPPI STATE BOARD OF HEALTH

Report December 1, 1939—June 1, 1940

Continued strides have been made in the development of a collection of medical literature in the State Board of Health to meet the requirements of its various divisions, including field personnel and county health departments. The services of a special librarian to search out and assemble specific books, periodical articles, and miscellaneous material for a given problem has undoubtedly met a great need. It also has eliminated unnecessary duplications by delegating the responsibility for all book purchases and their circulation to one department.

While the staff receives the chief benefits of the library's services, the interests of the medical, dental, and nursing professions are not being neglected. Considerable attention is given to having all basic medical sciences represented with up-to-date material. The growing usefulness of the collection is well attested by the daily calls received from physicians, dentists, nurses, pre-medical students and others.

The major objective of the Library during the past six months has been the completion of its more important periodical series, as these constitute the most essential item in the modern working library. More than 40 shipments of needed items were received at no cost other than transportation. This represented gifts from medical libraries in 19 different states. In addition, local physicians, dentists, and others have contributed to the Library's progress by giving valuable journals and books. All of the important state medical journals are being currently received as a result of a co-operative arrangement with the editor of the MISSISSIPPI DOCTOR. A total of 150 volumes of periodicals were bound during the six-months' period. Binding not only preserves this vital material, but protects against loss of a single issue and permits of a much more orderly arrangement on the shelves.

Forty books were purchased during the period, covering the following subjects:

Public Health Administration.
Children's Disease and Child Welfare.
Obstetrics and Maternal Welfare.
Sex Instruction and Social Hygeine.
Bacteriology and Laboratory Diagnosis.
Dentistry.
Biography and History.
Physiological Chemistry.
Phychiatry and Neurology.
Orthopedics.
Sociology.
Public Health Nursing.
Sanitation.
Communicable Diseases.
Roentgenology.
Aviation Medicine.

About twenty equally important new volumes were acquired by gift, many of which were sent complimentary to the executive officer and referred to the Library for general use. To enumerate the many useful pamphlets, reports and transactions received by the Library would be impractical. However, these have their value alongside other important documents.

A close relationship has been maintained with other medical librarians and this has proved most helpful in keeping abreast of services which the modern working library should be equipped to perform. Several state health departments were referred to us for assistance in organizing a similar type of library within their departments and their inquiries have been answered in careful detail.

The librarian has co-operated closely with the editor of the MISSISSIPPI DOCTOR and has had the responsibility for editing and often compiling the material for the State Board of Health section. In preparing this material, the paramount objective kept in mind is to utilize the space allotted as a medium of communication with the medical profession, depicing to them those phases of the public health program of greatest interest, instructing them with regard to carrying out any medico-public health endeavor, special laboratory technics, etc., and informing them of disease trends and of major developments in Mississippi's health program.

The librarian has responded to numerous other calls for editing, and for the preparation of manuscripts within the organization. She has prepared special health columns and releases for newspaper use, and has endeavored to take care of a large measure of the work ordinarily delegated to the Health Education Division in the absence of the assistant supervisor on leave for scholarship during the period.

The "J. W. Monette Exhibit" conducted at the 1940 State Medical Association meeting was made possible through the special efforts of the State Board of Health Medical Library in getting the necessary materials and in setting the exhibit up.

Periodic releases of "books received" have been prepared for publication in the MISSISSIPPI DOCTOR for the information of physicians who are interested in borrowing or keeping up with current accessions of the Library.

The Library, by virtue of its excellent facilities has given a boost to both medical education and health education in the state, and continues to grow in the favor of those who have occasion to use it.

BOOK REVIEWS

THE MANAGEMENT OF OBSTETRICAL DIFFICULTIES, second edition, by Dr. Paul Titus is just off the press. Dr. Titus is obstetrician and gynecologist to the St. Margaret Memorial Hospital, Pittsburg, and is connected with all the other leading hospitals in this great city. His first editon was very popular. To the second edition eighty-eight pages have been added, along with the seventy-five new illustrations. The new edition contains 368 illustrations and five color plates. The book has been brought up to date in every respect. Some of the new things of importance added in the new edition include: advances in relief of sterility, use of sulfanilamide in puerperal sepsis and pyelitis, detailed technic of x-ray pelvimetry, advances in operative procedure, toxemias of pregnancy, anemia, and the improvements in analgesia and anesthesia. In many controversial matters, the author expresses his idea without burdening the reader with so many views. The second edition is more adapted to textbook work than the first, a book for students and for men preparing for specialties. Practical everyday obstetrical advice is it not overlooked by Dr. Titus. The book contains most valuable information for the general country praititioner as well as for the most outstanding specialist. It is a book that you will love to read and find great profit in consulting. The chapter on obstetric analgesia and anesthesia will be found interesting to every obstetrician at this time. The author's style is simple, clear, and logical. Order from the C. V. Mosby Company, St. Louis, Mo. Price $10.00.

COMPENDIUM OF REGIONAL DIAGNOSIS IN LESIONS OF THE BRAIN AND SPINAL CORD, by Robert Bing, Professor of Neurology, University of Basel, Switzerland, is translated and edited by Webb Haymaker, University of California, in the eleventh edition. 125 illustrations and 7 plates. Published by C. V. Mosby Company, St. Louis. Price $5.00.

The author has synthesized a great mass of data regarding localization of brain and spinal cord lesions and presented it in such detail that one unfamiliar with the technic can easily follow the steps. The book takes up spinal cord lesions first in the transverse plane, then in the longitudinal plane. The second half of the book discusses cerebral lesions: of the brain stem, the cerebellum, the cerebrum, the basal ganglia and the hypophysis.

The drawings are so clearly presented that the anatomical emphasis is of first importance. Special aids are provided for diagnosis, and three colors are frequently used to clarify an operation.

For the student or the specialist, this book remains a standard in fundamentals for this province of neurology. It definitely ranks among the top contributions in this field.

FOR SALE—One Obstetrical, portable, gas outfit (Forregger) with two tanks of gas.
DR. F. E. BARR

Mississippi State Medical Association

Organized 1867 **Next Meeting: May, 1941, Biloxi**

OFFICERS

President—W. H. Anderson, Booneville
President-Elect—Augustus Street, Vicksburg
Vice-Presidents—E. C. Mullins, Meadville
M. L. Flint, Meridian
W. H. Currie, Eupora

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Speaker—J. Rice Williams, Houston
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Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—V. B. Philpot, Houston
Hygiene and Public Health—Paul T. Haney, Laurel
Medicine—A. H. Little, Oxford
E. E. N. and T.—D. W. Hamrick, Corinth

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

ounty Society	President	Secretary-Editor	Time of Meeting
lams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
corn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
nite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
ntral Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
aiborne		G. W. Acker, Port Gibson	
arksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov.
arke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
ahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
ast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
lta Medical	B. H. Higdon, Sunflower	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
Soto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
st Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
anklin	C. A. Everett, Bude	L. Costley, Meadville	
sa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
fferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
nes	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
rshall		W. T. Harper, Fayette	
wton	W. L. Henton, Decatur	Dudley Stennis, Newton	
rth Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
rtheast Miss.	J. T. Senter, Fulton	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
ke	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
ntotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
uth Mississippi		Van C. Temple, Hattiesburg	
nflower		H. B. Cottrell, Indianola	
llahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
te	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
p.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
ebster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
ilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
inona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

OBSTETRICS

THE MANAGEMENT OF PELVIC DYSTOCIA, A. C. Beek, Surg., Gyn. and Obst., 70:509, 1940.

The management of pelvic dystocia at the Long Island College Hospital has undergone considerable change during the last 27 years. The changes that were effected can be divided into three distinct periods. From 1912 to 1918 was characterized by the relative large number of destructive operations that were done on neglected patients. From 1918 to 1928 covered the period when an attempt was being made to determine the value of the low cesarean section. It was also influenced by the work of the prenatal clinic. The third and last period began the inauguration of the present routine.

The following impressions were gained from the experience of the first period. (1) A destructive operation sometimes requires more skill than is required in performing a cesarean section. (2) That a destructive operation cannot always be done in a neglected case of dystocia without risk to the mother. (3) That cesarean section can often be successfully performed in these cases. (4) That the risk to the mother, however, is too great to warrant the use of cesarean section if she can be delivered by any less dangerous procedure. (5) That the neglected patient's condition may be too poor to stand any operative procedure.

Experience during the second period was as follows: (1) Even the low cesarean section is not safe when it is done too late in labor, long after the membranes have been ruptured and vaginal manipulations have been made. (2) The low cesarean section can be done after 10 to 15 hours of labor even when membranes have been ruptured several hours if no vaginal examinations are made and a good technic is followed throughout trial labor. (3) That a full test of labor is not necessary in the majority of borderline pelvic contractions.

After having learned the limitations of the low cesarean section, the risk in pelvic dystocia was considerably diminished in the third period by eliminating the complete test of labor in the majority of cases in which it was formerly used, and by substituting for it a trial labor which was not to exceed 15 hours whenever cesarean section was contemplated.

The possibility of pelvic dystocia should be recognized by measurements of the pelvis during the prenatal period. External measurements are of little value in determining whether a pelvis is or is not contracted. The diagnosis depends upon the length of the diagonal conjugate and the biischial diameters, or upon the measurements obtained by one of the accurate roentgenographic techniques. It is to be hoped that every woman will have the size of her pelvis determined by means of roentgenography before she is married or when she becomes pregnant just as she is having a premarital or prenatal Wassermann test done at the present time.

Elective cesarean section is advised when the true conjugate diameter is 8 cm. or under. Unfortunately, most of the cases of contracted pelves have a true conjugate between 8 and 10 cm. in length. In these the possibility of delivery through the natural passages is always present. Because much depends on the character of the uterine contractions and the malleability of the head, it is the author's custom to allow women with such borderline pelves to go into labor. Soon after the onset of good contractions an attempt is made to force the head into the pelvis and the cephalopelvic relationship is determined by a modification of the method of Mueller. An assistant makes pressure over the fundus of the uterus and in the axis of the pelvic inlet while the examiner grasps the sides of the head with one hand and attempts to force it into the pelvis. At the same time, he notes by rectal palpation the effect of this maneuver on the descent of the head. If the presenting part can be forced to within a centimeter of the level of the ischial spines, delivery through the pelvis is awaited. If, on the other hand, the head cannot be forced into the pelvis and little or no over-riding is present, labor is allowed to continue in the hope that sufficient molding may occur to permit engagement. Several hours later this maneuver is repeated and the relationship of the head to the pelvis is again determined. If at that time, no progress has been made, and the true conjugate is less than nine centimeters, suprapubic delivery is decided upon. When the measurement is 9 cm. or over, the trial labor is continued even though no progress has been made. From this it may be seen that cesarean section is favored whenever there is no progress and the measurement is only slightly above the upper limit for an elective operation, while delivery through the passages is anticipated in all borderline cases. This trial labor, however, is terminated within 15 hours after the onset of labor and within 4 hours after the membranes have ruptured in all cases in which cesarean section is contemplated. In other words, the decision either for or against section must be made at some time within these limits. Stereoscopic roentgenographic observations during the course of a trial labor are of value.

In outlet contractions, the posterior sagittal diameter is measured. Whenever the sum of this measurement and the biischial diameter is under 15 cm., elective section is done. Here again, the more accurate roentgenographic technics offer considerable help in that they correctly show the length of the symphysis, the acuteness of the subpubic angle, and the size and shape of the sacrosciatic notch.

When the routine outlined is followed in the management of labor in contracted pelves, most women are delivered through the natural passages. Labor is conducted in the usual manner with the exception that vaginal examinations are avoided and rectal examinations are reduced to a minimum whenever the possibility of section is considered.

High forceps, podalic version, and the induction of labor are not recommended in the management of contracted pelves.

—J. F. L.

PATHOLOGY

INCIDENCE OF TRICHINOSIS AMONG COUNTY HOSPITAL PATIENTS IN THE DETROIT AREA. Based on 500 Consecutive Autopsies. Gould, S. E., Am. J. Clin. Path., 10:431-459 (July) 1940.

Since 1931, 1,039 positive cases of trichinosis have been found in autopsy surveys on 6,815 cases, an incidence of 15.2 per cent. It has been estimated that 17 to 20 per cent of the population of the United States is infested. (The great majority of infestations are without known clinical symptoms; all of the anatomic studies quoted have been made on autopsies where the cause of death was not trichinosis).

Of the 500 cases examined, 93 instances of infestation with trichinella spiralis were found. In positive cases there was an average of 13 cysts per gram of muscle. The parasite was found in skeletal muscle but was not found in cardiac muscle. The incidence of infestation increased with increasing age. There was no correlation between the degree of infestation and blood eosinophilia.

Clinical charts of the 500 cases were studied for history of muscular or "rheumatic" aches or pains. In 83 of the 93 cases with trichinosis there was no history of "rheumatism." In one case there was a clinical history of rheumatism, but at autopsy rheumatic carditis was found. In one case there was alcoholic polyneuritis. In only three cases was there a history of rheumatism with no rheumatic heart disease found at autopsy.

There was a particularly high rate of infestation in people born in Austria, Hungary, Roumania, and Bohemia. There has been some indication that the incidence of trichinosis is lower in the Southern states.

SPUTUM STUDIES IN PNEUMONIA AS AN AID IN PROGNOSIS. Frisch, A. W. Am. J. Clin. Path. 10:472-482 (July) 1940.

In a preliminary report of 78 roentgenographically proved cases of pneumonia a correlation was noted between multiple lobe involvement, decreased circulating leukocytes, incidence of blood stream invasion, mortality, and the number of extracellular encapsulated pneumococci in rusty or bloody sputum. The present communication based on 228 cases is a continuation of the study.

The cases fell into three groups, those cases with no more than 10 pneumococci per oil immersion field, those with 11-35 pneumococci per field, and those with more than 35 pneumococci per field. The mortality rates of the three groups were respectively 3 per cent. 10 per cent, and 64 per cent. Other unfavorable prognostic signs such as bacteremia, leukopenia, and multiple lobe involvement, were more commonly found in the groups with the greater number of pneumococci in the sputum.

On the basis of this study, predictions were made on 181 cases as to whether they would survive or expire. Of 160 cases predicted to survive, 11 expired (an error of 7%). Of 21 cases predicted to expire 2 survived (an error of 10%).

The sputum from cases of type III pneumonia was characteristic in that there was a large amount of capsular substance on the organisms. The sputum from cases of type III pneumonia consistently contained fewer pneumococci than the sputum from other types and no correlation could be made between the number of organisms and the severity of the disease on the number alone. However, the cases of type III pneumonia that are going to expire do not contain leucocytes and erythrocytes but contain only a peculiar reticulum as a background for the organisms.

PEDIATRICS

Factors Influencing Plasma Prothrombin in the Newborn Infant—II. Antepartum and Neonatal Ingestion of Vitamin K Concentrate, Landrum B. Shettles, E. Delfs, and L. M. Hillman, (Bulletin of the Johns Hopkins Hospital, 65: 419, Nov., 1939).—

The authors have already shown that low levels of prothrombin could be raised by feeding vitamin K concentrate to mothers before delivery and in this article the work is continued. The plasma prothrombin was determined by the method of Smith, Warner, and Brinkhous, in modification. Mothers receiving 4,500 units of vitamin K concentrate by mouth daily showed not only an elevation of their levels, but the infants are born with plasma levels three times those of the control group. The plasma prothrombin level of the newborn infant rise extremely slowly druing early life. Again, it can be raised rapidly by oral administration. Warning! No ill effects have been seen from this treatment but one must be cautious. It has not been proved to be of any benefit, but the experiments will be carried further. The summary follows: "1. The plasma prothrombin level of the newborn infant can be raised not only by feeding vitamin K concentrate directly to the infant after birth, but also by administering it to the mother prior to delivery. 2. The values obtained by maternal administration are often three times those normally seen, and in general are higher than those which can be obtained by administering vitamin K concentrate to the baby after birth."

Generalized Herpes — Report of Nine Cases, Leslie Paxton Barker, (Archives of Dermatology and Syphilology, 40:974, December, 1939).—

This author holds that herpes zoster is occasionally accompanied by a generalized vesicular eruption, clinically similar to varicella, and reports nine cases to support this idea. There is an excellent bibliography. In the discussion it is brought out, among other matters, that Bruusgaard claimed to have produced clinical varicella in healthy children by inoculation with the contents of a herpes zoster vesicle and that Kundratitz thought he had protected four children from a house infection of varicella by injection of convalescent zoster serum. It is important that varicella is highly infectious and herpes zoster only slightly so; that herpes zoster has occurred in patients who have had chickenpox in childhood, and that herpes zoster has been followed in eight or nine months by attacks of varicella. Zoster may occur in localities in which there is no varicella. In summary (following this comment) the author quotes the statement of Parounagian and Goodman: "Lacking bacterial bases for contentions of identity or non-identity of herpes zoster, the generalized eruption sometimes accompanying herpes zoster and varicella, the conclusion to which we must arrive is that there is a clinical group of cases best identified as herpes poster generalisatus, and that as far as we know now, this is separate and distinct from the fortuitous association of herpes zoster and varicella." His conclusion follows: "Local herpes zoster may be followed by a general eruption which is due to the same causative agent. The causative agent may belong to the group of filterable viruses and may be related to the agent of chickenpox, although it is probably a separate entity."

COMMENT

It occurred to me that the article on the administration of vitamin K to prospective mothers before the birth of their babies, as well as to the infant after birth, also the article on herpes zoster would be timely and interesting to the profession. Quite a great deal has been written on the subject of vitamin K for some time; while the effects of the new vitamin is not so reassuring as we had hoped, it has definitely been shown to be of benefit when administered to the mother before the birth of the baby, and also to the baby after it is born. The subject of relative association of herpes zoster and chickenpox has commanded a great deal of attention from many authors for the past few years.

— H. F. G.

* * * *

DIFFERENTIAL DIAGNOSIS OF THE CAUSE OF RECURRING ABDOMINAL PAIN IN INFANTS AND CHILDREN, Fitzgerald, R. R., Canadian Medical Association Journal, 42:332 (April) 1940.—

The above subject is always a very interesting one from the standpoint of pediatrics. The author of this article seems to have covered the subject very thoroughly. The effect of some of his work is revealed in the following statement:

"In the Children's Memorial Hospital, Montreal, the death rate from diseases of the appendix has been steadily falling during the past five years. At the Montreal General Hospital it has remained practically stationary, in the neighborhood of one per cent. If this experience is typical of the results in other Canadian hospitals, one is forced to conclude that the increasing mortality in the whole country is probably due to a general increase in the incidence or in the severity of the disease. It is the obvious duty of those of us who are responsible for the health of children to do what we can to correct this undesirable state of affairs."

This author enumerates many causes for abdominal pain. Along with many others is the subject of appendicitis. In mentioning the many causes of abdominal pain, he suggests certain symptoms and means of diagnosis in each case. For instance, in developmental anomalies, he mentions diaphragmatic hernia and dextrocardia with attacks of dyspnoea as clinical features that suggest the diagnosis by x-ray.

He enumerates the following as other causes of abdominal pain: the urinary tract, double ureter, ureterocele, hydronephrosis and dilatation of the ureter, ureteropelvic stricture; and, as a means of diagnosis, intravenous pyelography is suggested. Ureterœal stones are also mentioned and x-ray again as the means of diagnosis.

The intestinal tract. He mentions malrotation, volvulus and Meckel's diverticulum, and the x-ray as the principal means of diagnosis in each case.

In **traumatic conditions**, he mentions pancreatitis as a result of one child being run over by a motor car. A pancreatic fistula developed in this case and the wound healed spontaneously. Pancreatitis was also mentioned in a girl who complained of gastric pain. There was found to be tenderness in the subcostal region for a period of three weeks following the subsidence of an attack of mumps. This diagnosis seems to have been based on the persistence of local tenderness on pressure.

Osteomyelitis of the pelvis, which brought about abdominal pain, was accompanied by a low grade fever for some time before an abscess developed.

Nonspecific mesenteric lymphadenitis. The author says that this disorder is becoming so common that it is often possible to make a tentative diagnosis before the abdomen is opened. The pain is usually para-umbilical, the tenderness mid-line, left iliac or right iliac, but the tender point can be found to shift its position by rolling the child on one side. This condition is often accompanied by a temperature of 101 or 102°. There is no muscular splinting and rarely vomiting. At times a vague mass can be palpated. These cases are often operated for acute appendix before the diagnosis is made and frequently the glands are overlooked at the time of operation.

Chronic ulcerative colitis and tuberculous peritonitis are both mentioned as causes of abdominal pain but rather uncommon. The diagnosis of the former is usually made by a proctoscopic examination and barium enemas, the tuberculous peritonitis by abdominal palpation.

New growths, or tumors, frequently reveal dermoid cysts of the ovary and are detected by rectal examination; on x-ray examination, teeth are occasionally found in the cysts. **The**

malignant type. **Sarcoma** of the intestines and **Hodgkin's disease** are some of the common ones.

Worms. The barium drink will often reveal a diagnosis of worms when the laboratory findings are not present. They are frequently found to be the cause of abdominal pain. Worms are occasionally found in the appendix.

The **onset of menstruation** in the young girl often leads to periodic pain which, of course, disappears when the cycle is established.

Cyclic vomiting is an occasional cause of abdominal pain and is seen in repeated attacks, among the symptoms of which are the following: constipation, flatulence, fatigue and irritability, acetonuria and pallor, vomiting, and indefinite abdominal pains. The removal of the appendix often leads to disappointment, as the disorder continues.

Oncoming rheumatic fever. Abdominal symptoms often occur before joint enlargements are known.

Chronic intussusception is mentioned as differing from the acute varieties in the absence of three cardinal signs—melaena, intestinal obstruction and vomiting. The abdominal mass may be out of reach and cannot be felt. It is then necessary to resort to a barium enema to make the diagnosis.

Megacolon, or Hirschsprung's disease. Infants with different grades, accompanied by constipation with large abdomen, often have abdominal pain. The only accurate means of diagnosis is by x-ray.

COMMENT

All in all, this is a very interesting article and is well worth the time and patience of any physician to read. There is much food for thought in the many conditions mentioned as well as the symptoms and means of diagnosis.

State Board of Health

Felix J. Underwood, M.D.

PUBLIC HEALTH OF VITAL IMPORTANCE IN NATIONAL DEFENSE

Recently a co-ordinated plan of health protection for troops and civilian population in troop concentration areas has been worked out by the War Department, the United States Public Health Service, and local health agencies in Mississippi. This is of tremendous importance in view of the fact that contagious diseases always have a tendency to become more prevalent in areas where troops are concentrated.

The State Board of Health and county health departments in the area around Camp Shelby have developed plans in co-operation with the United States Public Health Service and Army physicians of Camp Shelby with this in mind. This plan delineates the responsibilities of each agency concerned and includes food and drink supervision, proper notification and investigation of communicable diseases both in troops and civilians, repression of prostitution, and other measures. All measures are directed at prevention and spread of disease from troops to civilians and vice versa.

Plans for this program were worked out at a conference recently with Dr. J. R. Heller of the United States Public Health Service, representatives of the State Board of Health and health officers and sanitation supervisors from Harrison, Pearl River, and Lamar counties and the Southeastern Health District.

Through the plan set forth, the State Board of Health and county health departments of Mississippi are glad to assume their definite responsibilities in the national defense program.

* * * *

The State Board of Health held its semi-annual meeting on June 28 in the Medical Library, at which time brief reports were presented covering health activities for the 6-months' period December 1, 1939 to June 1, 1940. Gleanings from these reports which it is felt will be of particular interest are as follows:

Venereal Disease Control

Dr. D. V. Galloway, supervisor of Venereal Disease Control, and Dr. Paul T. Erickson, consultant, report that the chief consideration for this period has been the expansion of the venereal disease clinic service. Twenty-three clinics were added, making a total of 156 as of June 1. The number of patients under treatment increased from approximately 12,500 to approximately 17,250.

About 200 physicians are now acting as part-time clinicians in the venereal disease service. Forty counties have organized clinics. Twenty counties were visited and complete surveys were made of facilities and needs in six counties. Staff conferences were held in 11 counties. The entire venereal disease program was reviewed, discussed by all present, and plans made for extending and improving clinic service. Twenty-seven talks were made to public groups during the period, attended by approximately 2,600 people. The entire record and reporting system was revised to conform with new regulations issued by the United States Public Health Service in January, 1940. The clinic treatment schedule was also revised.

Preventable Disease Control

Dr. A. L. Gray, director of this division, reports that the pneumonia control program was one of the outstanding developments of the period. The program was organized on a trial basis in November, 1939, to provide laboratory service and therapeutic serum and sulfapyridine for medically indigent patients in Hinds, Warren, and Lee counties, and sulfapyridine for treatment of cases in George, Greene, Stone, and Perry counties. During the 6-month period covered by this report approximately 325 patients have been served in one way or another through the pneumonia control program. Histories were obtained on all patients possible and the fatality rate in the group treated with serum and/or sulfapyridine was between 6 and 8 per cent compared to an expected fatality rate of about 25 per cent.

The pneumonia control program was organized by the director of the division in cooperation with private physicians, county health officers and private laboratories.

The assistant epidemiologist, Dr. Geo. E. Riley, had the following to say with regard to malaria, Rocky Mountain spotted fever, typhus fever and leprosy:

Based on previous incidence history of malaria in Mississippi, an increase in incidence was expected in 1938. Instead of this expected increase, there was a decrease in incidence and a decrease in malaria mortality. In 1939, there was a slight increase of reported malaria morbidity, but a decrease of malaria mortality over previous years. In 1937 there were 47,790 cases and 301 deaths; in 1938, 44,346 cases and 268 deaths; and in 1939 there were 44,422 cases and 221 deaths. During the first five months of 1940, there were 8,670 cases of malaria reported as compared to 8,056 cases for the same period in 1939.

Evidence shows that typhus fever is a reasonably prevalent undiagnosed disease in Mississippi, and also Rocky Mountain spotted fever, and during the period several suspected cases were investigated and a word of caution sounded for physicians to be on the lookout for the diseases.

One case of leprosy of long standing was diagnosed and admitted to the Leprosarium at Carville, Louisiana, after considerable investigative work. This case was in a comparatively young white man whose father evidently died of leprosy several years ago. There was evidence of other cases having occurred in the relatives of this family in previous years.

Industrial Hygiene

One inspection of all factories where women and children are employed has been completed since December 1, according to the report of Dr.J. W. Duggar, director. The conditions in regard to hygiene, ventilation, safety appliances and the like are very good. Results of the physical examination program in the factories during the period were as follows:

Number physical examinations	525	
Number positive Wassermanns	64	12.1%
Number positive malarias	0	0.0
Number with high blood pressure	66	12.5
Number with low blood pressure	7	1.3
Number with diseased tonsils	85	16.1
Number with heart trouble	23	4.3
Number tuberculin tested	537	
Number positive tuberculin tests	289	53.8
Number chest x-rays taken	408	
Number positive for tuberculosis	5	1.2
Number with suspicious tuberculosis	6	1.4

Laboratory

Dr. H. C. Ricks, director, reports gratifying improvement in the condition of specimens submitted to the Laboratory, indicating a sincere desire on the part of the medical profession and county health departments to realize the most possible from this service. Total specimens examined during the 6-month period were as follows:

Agglutination tests and blood cultures	1,362
Feces cultures	3,094
Gonococcus	2,602
Intestinal parasites	7,894
Malaria parasites	9,135
Milk	2,011
Miscellaneous	1,009
Oral and respiratory tract	10,548
Rabies in animals	189
Serological tests for syphilis	90,903
Urinalyses	3,958
Urine cultures	2,847
Water (bacteriological)	1,614
Water (chemical)	219
TOTAL	137,219

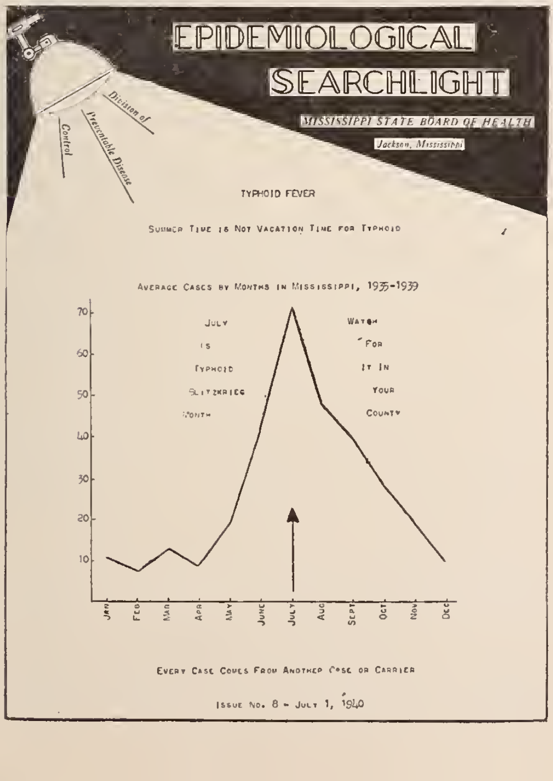
Other services included:

Rabies vaccine treatments	730
Typhoid vaccine	139,700 c.c.
Silver nitrate ampules	25,084
Culture media	1,005,000 c.c.

* * * *

SMALLPOX VACCINATIONS

Private physicians have a definite responsibility in urging vaccination against smallpox of children who are to enter school for the first time during the fall. They should not only urge it but should make the vaccinations available for the families for whom they practice. The fact that not more than 50 per cent of the population of Mississippi have ever been vaccinated indicates that this important preventive measure is often neglected by physicians in their general practice.



COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

JULY 10, 1940 — MINUTES:

The Coahoma County Medical Society and the Clarksdale Hospital Staff held their regular monthly meeting at the Alcazar Hotel at 12 noon, Wednesday, July 10, 1940. The minutes of the previous meeting were approved as read.

Dr. T. G. Hughes made a report about the "Combined Laboratory and X-ray Technician," which was presented before the board of directors of the Clarksdale Hospital.

Dr. Guy Post read a paper on "Ectopic Gestation." This paper was discussed by Drs. Hughes, Warfield, Brevard and Levy.

Dr. T. G. Hughes volunteered to present a paper at the next regular monthly meeting, and there being no further business the meeting was adjourned.

July 10, 1940 Julius L. Levy, M.D.,
Clarksdale, Miss. Secretary-Treasurer.

DESOTO COUNTY

Some time ago Ian Hay in an address before the students of Guy's Hospital in London, said: "In the cultivation of the healing art, I think you will admit that the human touch is of incalculable importance. I suppose it is true to say that as much healing is produced by suggestion as by physics, and that many a patient gets well simply because he believes in his doctor. We need not go all the way with Samuel Butler, who tells a story somewhere of a man who swallowed a doctor's prescription in the belief that it was actual medicine, and was immediately cured of a dangerous disease, but the human touch does count, all the time. A doctor is above all things a propagandist. To a certain extent he is always playing a part—backing up the resources of science by the arts of the skilled advocate; mixing the powder and the jam in such proportion that the powder escapes notice yet achieves its purpose; doing everything in fact that is morally justifiable to create, maintain, and increase the confidence of the patient in his own chances of speedy recovery."

* * * *

The first woman to receive her M.D. in America was Elizabeth Blackwell; she came to this country from Bristol, England, in 1832. At one time she taught in a fashionable boarding school in Charleston, S. C. In New York she established the New York Infirmary and College for Women and Children. Later she assisted similar institutions in London where she continued to practice, lecture and write until her death in 1910.

* * * *

The Science of Dentistry has made great strides during the past century. In 1825, Dr. Horace H. Hayden, a Baltimore dentist, gave the first lectures on the subject in the United States. His class consisted of four lonely students. But the undiscouraged Dr. Hayden kept on for fifteen years until he joined hands with another enthusiastic Baltimore dentist, Dr. Chapin A. Harris, to establish the Baltimore College of Dental Surgery. The centenary celebration of this college recently had on exhibit the vicious-looking old time forcep, George Washington's quaint false teeth (which were carved out of hippopotamus ivory), and wax casts showing how to reconstruct damaged jaws. Much has been written about Father of his Country in relation to his molars, which were no doubt the best of his day. Dr. Harold Lytton Harris, of St. Paul, Minn., said that looks, comfort and use are the three cardinal principles of full denture impression, or false teeth technique. The past decade witnessed the greatest improvement in false teeth; he advocated a close study of muscles in the mouth and neck as extremely beneficial in making full denture. There are 65,000 dentists in the United States.

That dentistry has plenty of room for expansion is indicated by the following two facts: (1) About 70% of the population have never even had their teeth examined; (2) there are an estimated 830,000,000 cavity-pitted teeth in the United States, or about 6.5 bad teeth per person.

* * * *

A Monument To Slaves

(Dr. Henry B. Stewart of Fairview, S. C., Has Erected a Granite Memorial to the Slaves of the Sunny Southland).

In the historic rock-walled cemetery of the Fairview Presbyterian Church, near Greenville, S. C., will be found a solid block of South Carolina granite designed and erected by Dr. Henry Boardman Stewart, the Fairview physician, who attracted national attention in 1928 by erecting in the same churchyard the only monument in the country to the memory of the family physician.

This newest monument is a memorial to the former Southern slaves, and it faces a corner in the churchyard where row upon row of humble stones mark the burial place of one time Negro servants. The inscription reads:

"Dedicated to the memory of the colored slaves buried here and elsewhere in our sunny Southland."

In the upstate area of South Carolina, slaves were generally buried in the same country churchyards in which their masters slept. In many of the coastal communities in the low country of South Carolina separate graveyards are to be found on most plantations for all of the colored people born on that particular plantation.

Dr. Stewart's generosity brings out the fact that the old churchyard records indicate that slaves were accepted as members of their master's churches, and it is well known that the mistresses of Southern plantations not only spent time in looking out for the physical welfare of the women and children of their slave communities, but that they also taught the children the Scripture and catechism.

When a slave had been taught enough so that he could comprehend the meaning of salvation he was admitted to the church upon his own request as a probationer. If his conduct was good during the probation period he finally became a full fledged member.

The church records show that white as well as slave members were disciplined. Offenses included "playing the fiddle on Sunday" and "conjuring and witch doctoring."

The humble mounds in the churchyards are carefully kept by the descendants of those whom the slaves loved and served. By and large, attention given the slaves by their white owners was a devoted and unselfish one.

Dr. Stewart knows of one burial ground which was so dear to the negroes that its owners deeded it to the descendants of the slaves who are buried there, and now negroes living in other parts of the country who had relatives buried in that particular graveyard ask to be taken back there for interment.—Medical Pocket Quarterly.

* * * *

The practice of medicine is an art, not a trade; a calling, not a business; a calling in which your heart will be exercised equally with your head. Often the best part of your work will have nothing to do with potents and powders, but with the exercise of an influence of the strong upon the weak, of the righteous upon the wicked, of the wise upon the foolish. To you, as the trusted family counsellor, the father will come with his anxieties, the mother with her hidden griefs, the daughter with her trials and the son with his follies.—Osler.

* * * *

Part of the continued increase in reported diabetes mortality is due, Metropolitan Life Insurance Co. statisticians point out, to the fact that there is much greater interest in the disease today, and physicians are more alert to discover new cases. Another part is due to the fact that many diabetics, when they die, succumb not to diabetes but to other diseases, such as heart disease, pneumonia and cancer, which cause deaths of non-diabetics of the same age. In the case of the diabetic, however, the death is likely to be ascribed to diabetes rather than to the ailment that actually killed.

Many more cases of diabetes are being discovered, but improved methods of treatment are giving these diabetics a chance to live longer and more happily and comfortably. If the diabetic death rate were computed on the basis of the number of diabetics in the country, estimated at 500,000 to 600,000, rather than on the total population, a decreasing mortality rather than an increasing one would probably show.

* * * *

Metaphorical Flight

A Vermont lawyer who got his metaphors mixed up, closed his argument in a trover case as follows:

"And now gentlemen of the jury, comes the defendant with lying footsteps, with the cloak of hypocrisy in his mouth, and puts his hands into the pockets of my poor defenseless client and took therefrom two oxen and a pig."—Boston Globe.

* * * *

The first "patent" medicine in America was concocted by a Mrs. Masters in 1711. It was called "Tuscarora Rice" and sold as a consumption cure. As the name indicates, this so-called remedy with its Indian background was partly responsible for the popularity then and since of traveling "Indian Medicine Shows." (From My Scrapbook of Medicine, Dr. Louis R. Effler, 1937.)

Rt. 4, Memphis, Tenn. L. L. Minor,
July 19, 1940. Editor.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

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DOCTOR'S CHECK-UP

FROM THE PUBLIC'S VIEWPOINT:

All eyes are turned on the doctor since there are those who seek to establish political control of medicine and medical practice. The public has practically no grasp of what such a change would mean, and many in the profession have failed to accept the proposal as a challenge for professional stock-taking

Some doctors fall far short of the Hippocrates code, or that laid down by Osler that "The practice of medicine is an art, not a trade; a calling, not a business; a calling in which your heart will be exercised equally with your head"; many enter the profession offering homage only to Mammon; the majority, however, follow an urge to serve in the same manner a minister of the Gospel obeys the call to preach. The true physician measures his success by an inner consciousness of having given of himself as Paul, who said, "Neither count I my life dear unto myself, so I might finish my course." It is this dedication to service that lay people have not been encouraged to evaluate in estimating a doctor's worth. Is it not something that they have the chance to live twelve and one-half years longer than they had in 1900? That a thorough academic education, four years of medicine and one or more years of internship are required before their physician is permitted to practice? That this nation has been given the highest level of health the world has ever known? That every great discovery in medical science has been given to humanity, not sold for a fortune as have discoveries and inventions in all other fields?

From the patient's viewpoint:

Like automobiles, houses and dress, astonishing changes have taken place in medical practice. The up-to-date doctor is spending all he can to render his service in a palatable form—a nurse to accompany him on obstetrical cases, a clean and comfortable waiting-room, a copy of HYGEIA on the table for his patients to enlighten themselves on health, a game of golf forespent to remain at the bedside of a patient who needed him.

Somewhere in their professional routine doctors might have failed, and thus have subjected themselves to the avalanche of criticism now hurled at them. A personal check-up is then in order before retaliation. Frequently a patient's mind is eased only by taking time to explain the whys and wherefores of treatment.

From the doctor's viewpoint:

This phase will be the doctor's wife's care. To help him through hot, weary days with a carefully superintended diet, an easy chair and a good light in the evening, tactful answering of the telephone and trying to relieve him of his day's tedium—this is her special task and privilege. Spending the day at his office now and then might provide her many ways of helping him and give her a better understanding of his burdens. Nowadays a doctor's wife needs to know something of the problem he faces, or how can she be his defense or his press agent? She might be happily surprised at his reaction to her interest in his medical journals, the papers he has to write, and his efforts at citizenship in the community. And it is she who can see that he gets his own physical check-up this month. Even though he declares he'd rather wear out than rest out, his own motor power will function better and longer if kept serviced.

MEDICAL AUXILIARY

Harrison-Stone-Hancock members elected at the last meeting of that auxiliary in Gulfport, the following officers: Mrs. C. H. McCall, president; Mrs. W. W. Cox, vice-president; Mrs. Harry Hoke, secretary; Mrs. H. K. Rouse, treasurer. Mrs. M. M. Snelling, retiring president, was hostess to this luncheon meeting which was a special courtesy to Mrs. E. C. Parker, who was recently elected president of the state auxiliary. Yellow gladioli were used in decoration, and a tempting luncheon menu was served buffet style.

MEETING AT MACON

The Woman's Auxiliary to the Northeast Mississippi Thirteen Counties Medical Society held its second quarterly meeting June 11, 1940, at Macon, Mississippi, in the home of Mrs. S. F. Hill with the president, Mrs. Bernard Patrick, presiding. The state president, Mrs. E. C. Parker, of Gulfport, was a welcomed guest and presented her plan for the work of the auxiliaries, stressing in particular June as HYGEIA month; July, accident prevention and August, doctor's check-up.

Dr. J. P. Wall, of Jackson, past-president of the Mississippi State Medical Association, addressed the auxiliary on the subject, "The Menace of Socialized Medicine to the Present High Quality of Medical Service in the United States." His talk was most timely and instructive and was presented in his able and enthusiastic manner. Mrs. E. K. Guinn, of McCondy, gave a short talk on "Greater Interest and Efficiency in the Organization." Dr. W. C. Walker, of Houlka, gave his usual boost to the members of the auxiliary.

After the program Mrs. Hill invited the auxiliary into the dining room where dainty refreshments were served from a beautifully appointed table. Immediately following, a tour to several of Macon's loveliest gardens was made. The barbecue given for the doctors and their wives at the American Legion hut brought to a close a most enjoyable meeting.

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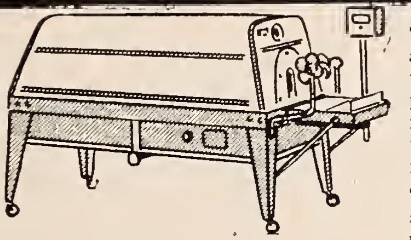

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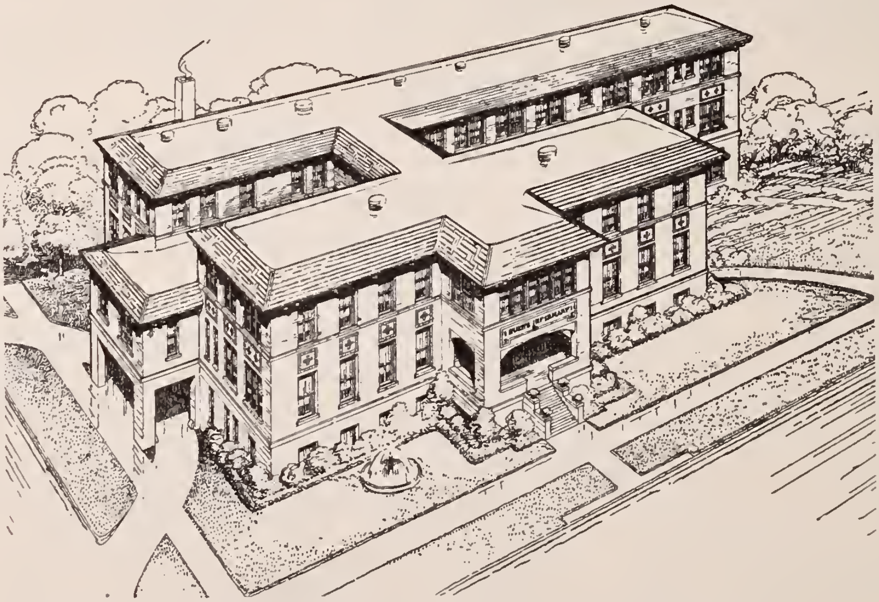

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The Mississippi Doctor

VOL. 18 BOONEVILLE, MISSISSIPPI, SEPTEMBER, 1940 NO. 4

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Happiness

I followed happiness to make her mine,
Past towering oak and swinging ivy vine.
She fled, I chased, o'er slanting hill and dale,
O'er fields and meadows, in the purpling vale;
Pursuing rapidly o'er dashing stream,
I scaled the dizzy cliffs where eagles scream;
I traversed swiftly every land and sea,
But always happiness eluded me.

Exhausted, fainting, I pursued no more,
But sank to rest upon a barren shore.
One came and asked for food, and one for alms;
I placed the bread and gold in bony palms.
One came for sympathy, and one for rest;
I shared with every needy one my best;
When, lo! sweet Happiness, with form divine,
Stood by me, whispering softly, "I am thine."

—BURLEIGH.

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IT is a fortunate provision of Nature that at the time the infant is ready to receive the nutritional benefits of cereal, his taste is unspoiled by sweets, pastry, condiments, tobacco, alcohol and other things to which adult palates and constitutions have become conditioned.

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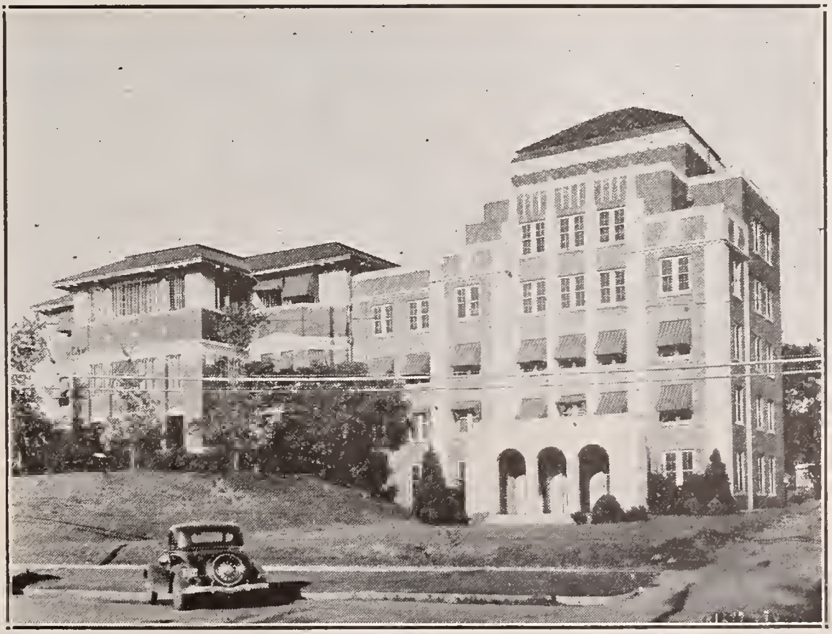

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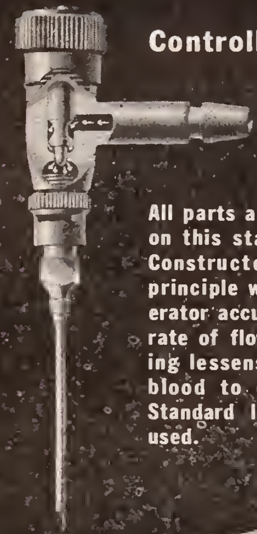

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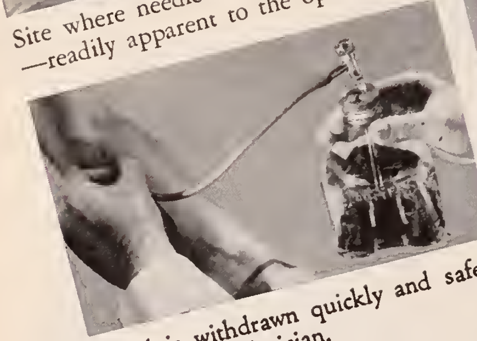

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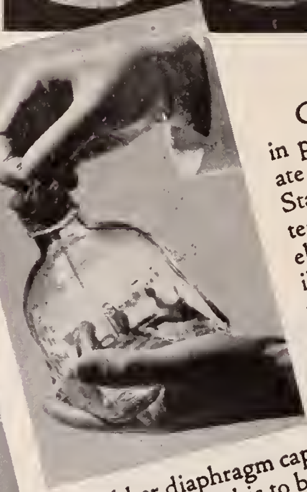

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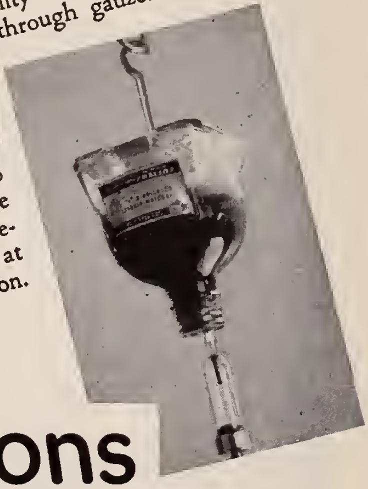

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Compression Fractures of the Spine*

H. EARLE CONWELL, M.D., F.A.C.S.†
BIRMINGHAM, ALA.

WE ARE TRULY living in the "machine age" today. In the next period which, no doubt, will be called the "aviation age" we will be spoken of as the "automobile age" just as we now speak of the past as the "horse and buggy period."

The question of the fracture—whether it be a fracture of the spine or of any other bone of the body—concerns not only possible permanent injury to you or your patients, but concerns lives as well. It is the duty of the medical profession today to make the public conscious of the many individuals who today are permanently disabled in accidents as the result of carelessness in first aid. It is our duty to teach the public the importance of first aid. There is no doubt but that certain deaths caused in the past by accidents could have been saved and permanent disabilities prevented by having proper first aid carried out. The proper procedures in the early history of the fractured spine and the immediate recognition of all local and general pathology are important.

Too frequently are superficial examinations made, the result being that fractures of the spine are often overlooked. Certain cardinal physical signs are not always necessary to indicate a fracture of the spine. Not infrequently two adjacent vertebrae are crushed and occasionally a definite fracture of two or more vertebrae with one or more normal vertebrae between occur from a single accident. Such conditions make it imperative that the surgeon look in different areas of the spine for other fractures besides the area in which the fracture is found.

In spinal fractures there is usually pain. There may be an inability to stand, even though there is no damage to the spinal cord. Frequently there is no deformity, except as shown later by an x-ray. On many occasions fractures of the spine are unrecognized, due mainly to the lack of very severe local symptoms, such as pain, swelling or deformity in the back or slightness of the injury or due to the fact that the patient is able to walk about following the accident, often underestimating his injury, even frequently jokingly remarking that he has a kink in his back and that the disability is of no importance. Such injuries, however, usually become more painful as time goes on and eventually medical advice has to be sought. We have seen such cases which later prove to be an anterior compression fracture of the spinal vertebra. We have also had cases walk into the office several days following an automobile accident, the patient suffering from backache which had steadily become worse and on doing physical and radiological examinations a definite fracture of some type mainly the anterior compression type of one or more spinal vertebrae, was found. It is very necessary when possible always to take an oblique x-ray of the spine as well as the standard lateral and antero-posterior views. We should always feel suspicious of a spinal fracture when back pain is present following an accident, regardless of the insignificance of the injury, also regardless of whether or not the patient has received a direct or indirect blow.

Most anterior compression fractures of the spine are received by suddenly sitting down on the buttocks or having some sudden forceful pressure from above down on the shoulders compressing the shoulders forward, thereby producing a jack-knifing position of the body resulting in a compression fracture of the vertebra. Another type of injury which is to be thought of is the type where the patient is suddenly thrown upward by hitting a speed-breaker or such like in the road, said force either producing a fracture of the cervical vertebra by the head striking the roof of the car or a compression fracture of the low spine by the sudden force directed on the buttocks.

To the lay mind and unfortunately to many medical minds, as well, a broken back or neck is a broken back or neck and as such is a dreadful accident which results in sudden death or complete and permanent paralysis below the level of the lesion, or the patient is delegated to a permanent total disability for life[1]. This gloomy point of view is the heritage of pre-x-ray days when only the severe fracture-dislocations of the spine with extensive damage to the spinal cord were recognized as spine injuries. At the present time we know that more than one-half of the fractured spines are not accompanied by paralysis and that with adequate treatment most of these patients may be expected to recover and return to their former occupations.

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*Presented before the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., Feb. 15, 1940.

†From the Sherrill and Conwell Orthopaedic Clinic, Birmingham, Alabama.

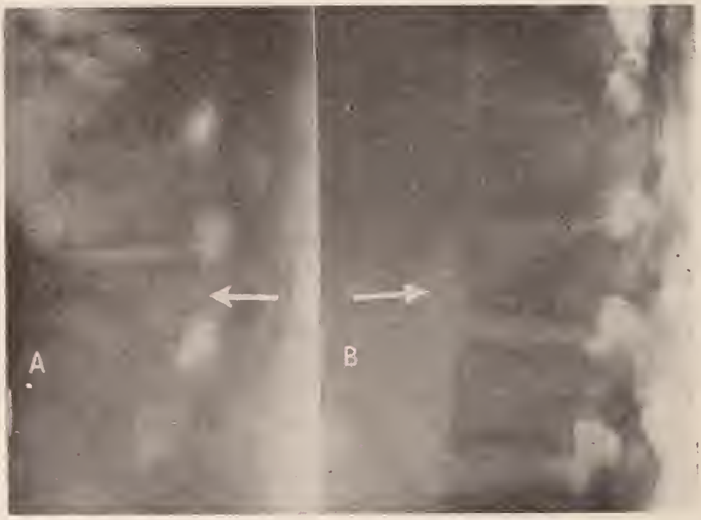

Figure 1A. Showing compression fracture of second lumbar vertebra.

Figure 1B. Fracture reduced by hyperextension method. Treatment carried out as described in text. Good functional results.

It should be emphasized that fractures of the spine are not dangerous on account of skeletal injury alone, but are dangerous to life only when associated with damage to the spinal cord or other visceral or skeletal injuries. On the other hand it is to be emphasized that skeletal injury may cause prolonged disability if proper treatment is neglected. Fractures of the spine should be treated by early reduction and immobilization, provided the general condition permits, until the lesion has healed. Pressure on the cord is most effectively relieved by early reduction and immobilization which tends to restore and maintain the normal diameter of the spinal cord. Certain cases of paralysis clear up spontaneously, but anatomic lesions of the cord may be permanent by having irreparable injury to the cord itself or from some bony pressure to the cord, and when present necessary consultation by capable surgeons should always be requested.

1. Compression fractures of the vertebral bodies.
2. Fracture-dislocation of the spine.
3. Injuries of the spinal cord, nerve root and cauda equina.
4. Fractures of the transverse processes.
5. Fractures of the spinous processes and laminae.
6. Dislocations of the vertebrae.
7. Traumatic lesions of the atlas and axis.
8. Traumatic lesions of the low back. (Lumbo-sacral and sacro-iliac strain)

Time does not permit, however, a discussion of all of these, but the author does wish to take up a brief discussion of the anterior compression fractures of the spine.

More than 50 per cent of all fractured spines are of the compression type. Over 70 per cent of the anterior compression fractures occur at the dorso-lumbar region. A compressed vertebra may be impacted so firmly (and usually is) that considerable force is necessary to loosen the impaction and restore the normal height of the vertebral body. In addition to this fixation there is usually a variable amount of fixation in this position as a result of the muscle spasm incident to the fracture. The strong anterior common ligament which is continous across the discs and vertebral body usually remains intact although it may be stripped up from the anterior surface of the fractured vertebra. Davis[2] has shown that by the fact that this ligament remains intact enables us to correct the deformity in anterior compression fractures of the vertebrae by hyperextending the spine with little fear, in most instances, of damaging the cord or by pulling the vertebra apart, except in that type of case where there is a definite fracture, as well as a fracture-dislocation in the posterior arc. Occasionally, in very severe injuries when the force continues to act, the vertebra above is displaced forward or forward and to one side of the vertebra below. When this occurs there is a fracture of the posterior arc or of the articular facets and the spinal cord tends to be crushed between the posterior border of the body of the vertebra below and the posterior arc of the vertebra above the point of the fracture. In rare instances there may be a tearing of the interspinous ligaments or a splitting of the spinous process with subluxation or even dislocation of the articular facets, injuring in many instances the spinal cord and nerve trunks.

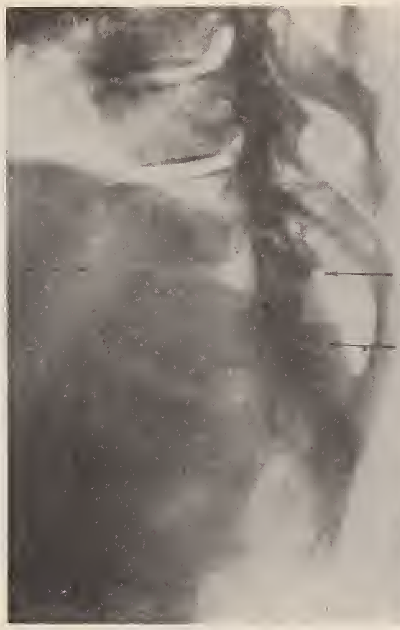

Figure 2A. Fracture in posterior arc of spine with angulation forward and a slight compression of the first lumbar vertebra.

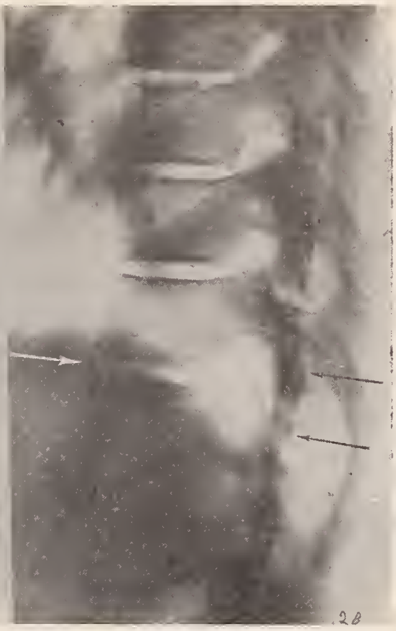

Figure 2B. Radiograph of case shown in figure 2A, after reduction showing good position. Treatment carried out as described in text. Patient developed good union and excellent functional results.

In certain instances there is a variable amount of damage to the intervertebral discs[3] in the vicinity of the fracture. These discs may be injured and protrude anteriorly or may protrude into the cartilage plate of the vertebrae above or below, or it may rupture into the spinal canal causing pressure on the cord. Batts[4] states that "Permanent protrusion of disc substance may occur in any direction." Of fifty spines examined by him at post-mortem, 20 per cent of the cases had protrusion of the disc into the bodies of the adjacent vertebrae, 16 per cent had a rupture of the nucleus pulposus posteriorly into the spinal canal and 6 per cent had anterior protrusion. He further states that "the terms protrusion of the disc and rupture of the nucleus pulposus are not used interchangeably. Protrusion may refer only to the annulus fibrosus in which there is no solution of continuity while a rupture of the nucleus pulposus refers to an actual break in the annulus or the cartilage plate with extrusion of the nuclear contents." He further states that "the frequency with which disc substance is found projecting beyond its normal limits in a hypertrophic lipping briding of the spine suggests that the bone change may be secondary to changes in the disc." Batts concludes by saying that "the rupture of the nucleus pulposus is a common lesion; it may occur in any direction, however, as commonly referred to, it is usually taken to mean a rupture posteriorly ONLY with protrusion into the spinal canal." We have experienced certain cases of rupture of the nucleus pulposus into the cartilage plate, which did not show up immediately in the x-ray, but several weeks or months following the injury such condition was found by taking later x-rays, said x-rays being taken on account of backache in the injured individual.

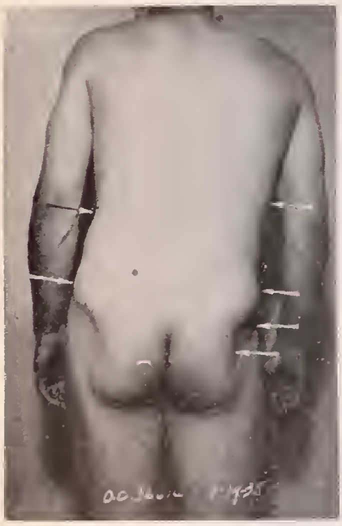
Figure 3A. Showing patient who walked into office on crutches giving history of having received a back injury in an automobile accident a few days before. Had been diagnosed as a sprained back. No radiograph had been taken.

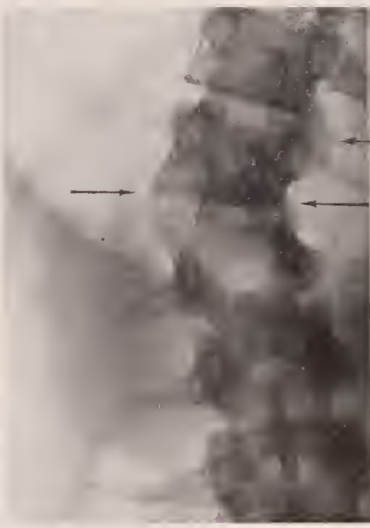
Figure 3B. Radiograph of case shown in Figure 3A, soon after first examination, showing a compressed fracture of the first lumbar vertebra with lateral angulation.

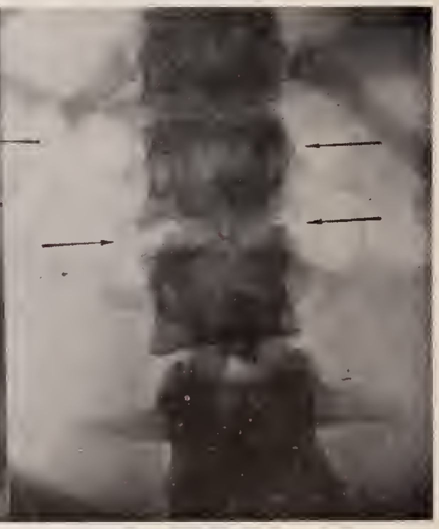
Figure 3C. Radiograph showing reduction. Developed good union and excellent results.

When a deformity is present in an anterior compression fracture of the spine an attempt should be made to correct it, provided the general condition permits. Several techniques in carrying out hyperextension with or without traction have been described, one being the original method described and used by Davis[5]. We wish to emphasize the fact that in severely injured patients immediate reduction should not be attempted until the general condition of the patient warrants same. Such delay in reducing the compression usually means only a few hours. It has been our experience that many of the individuals who receive a spinal fracture are badly shocked and immediate reduction is not warranted.

We use a modified Hermark frame on which the patient is placed immediately following admission to the hospital after all necessary treatment for shock has been given. The patient is placed on the frame in full extension. The angle for bringing about convexity of the spine is placed opposite the deformity of the spine. The turnbuckle on the frame is gradually tightened which convexes the frame more and more, thereby bringing about a hyperextension of the body. The hyperextension should be made gradually, and usually at the end of 15 or 20 minutes full correction of the deformity is obtained. Correction of the deformity should be controlled by lateral x-rays. All of the above procedure should be done after the patient has been given sufficient opiates to make him comfortable. We have not found it necessary to give general anesthetics, however, we have used avertin in certain cases. At the limit of extension the patient usually feels tension in the abdominal muscles and physical examination will disclose usually a disappearance of the prominence of the spine at the site of the fracture. In certain instances it may be necessary to apply a head and foot traction combining same with the hyperextension methods.

We have had certain cases to develop paralytic ileus which becomes a major surgical factor and demands immediate attention and consideration. None of our cases has proved fatal, but reports of death have occurred from such complication. We feel that too severe manipulative procedures or the too early application of tight body casts predispose to such a complication.

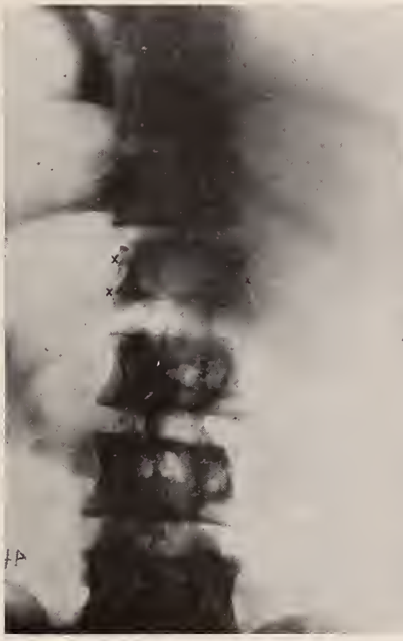

Figure 4A. Radiograph of a compressed fracture of the first lumbar vertebra with slight lateral angulation. Treatment carried out by hyperextension of spine.

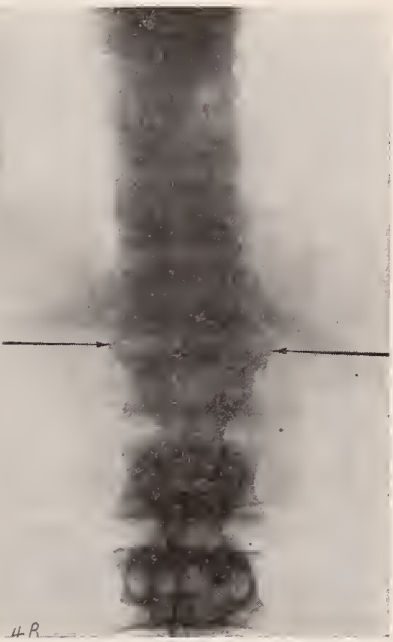

Figure 4B. Radiograph of case 4A, showing physiologic fusion between the twelfth dorsal and first lumbar vertebrae which is to be desired, but does not often occur. Patient had excellent functional results.

After the reduction the patient may be allowed to remain on the frame for a few days and then a plaster cast applied. In certain instances antero-posterior plaster shells may be applied. If casts, circular or shells, are used the patient's back should always be kept in a hyperextended position while applying same.

If the economic condition will permit, we prefer the patient remaining on the frame for five or six weeks and then applying a snug fitting body cast, keeping the patient's back in a hyperextended position wearing the plaster high up in front in order to retain the hyperextension of the spine. This is worn for a period of five or six weeks and then a properly fitting Taylor back brace should be applied and worn until x-rays show complete restoration of the crushed vertebra.

We have had several cases of fractured spines develop renal stones that have been known to come with startling promptness following the injury. In two cases the stones occured bi-laterally. It has been known a fact for years that a fracture of the vertebra may be followed by a rapid formation of renal calculi. The earliest report of such a case in English literature was followed by Costello[6] in 1833. Costello stated that Earle[7] in a report made prior to 1833 had described several cases of lithiasis which he attributed to a subacute inflammatory condition of the kidney induced by injury to the lumber region.

We have no specific explanation for the occurrence of renal stones in back injuries. One of us[8, 9] reported a series of 100 cases of anterior compression fractures of the spine without cord injury in which 8 cases developed renal stones.

Oechlecker[10] states that "the blood clot which accompanies or follows an injury to the kidney does not alone suffice to explain the formation of the calculi since the clot is often changed or even absorbed while the stone forms, but that there must be in addition a disturbance of the colloid-crystalloid equilibrium of the urine with resultant precipitation of the urinary salts about a central nucleus or framework of red blood cells or fibrin in a blood clot. The calculi which develop after an acute trauma to the kidney are more loosely constructed than an ordinary laminated stone and often a transverse section of a true traumatic calculus shows a small central cavity which is due to resorption of the blood clot."

Goldstein and Abel[11] state that "there are many factors concerned in the formation of renal calculi after injuries of the vertebrae and cord. The most important consideration is the condition of the kidney before and after the accident. The existence of a lesion of the upper urinary tract antedating the spinal injury must always be borne in mind and carefully excluded as a causative factor. Confirmatory evidence of the development of a renal lesion in every case of renal lithiasis following a spinal injury is found in the impaired renal function and alterations of the urinary constituents. In some cases the formation of calculi is dependent on a primary intrinsic lesion of the kidney, i. e., a rupture or tear of the renal parenchyma with extravasation of blood into the renal pelvis which occurs at the time of the injury to the vertebrae and cord."

It is not within the category of this paper to discuss in detail the estimate of the percentage of disabilities in spinal fractures. We do know, however, that many so-called spinal injuries are grossly exaggerated by the patient. Mock[12] states that "medico-legal evils undoubtedly started when medicine first went into court to prove or disprove sanity, responsibility for personal injury and the like. The limits of ethical legal practice are broad, those of the science of medicine more restricted. Physicians are by training experts in the science of medicine, but in the art of medicine, judgment, experience and integrity are factors which may lead to a divergence of opinion among physicians." Sterns[33] states that "the mental attitude of the patient greatly influences his ability to carry out the work which his disability, age and occupation should warrant his performing. Malingering and deliberate exaggeration must always be summarily condemned, but genuine psycho-neurosis must at least be viewed in a sympathetic manner. The examining physician must at all times be on his guard against the obvious fallacy of calling every hidden and unexplained condition a neurosis or exaggeration, and must constantly practice never to make a diagnosis of neurosis until repeated examinations have fully demonstrated the lack of objective corroborative evidence of the actual existence of disability. Often actual disability of a minor grade and psycho-neurosis co-exist."

We feel that the psycho-neurotic aspect encountered in the patient with a fractured spine is an individual problem and that a thorough understanding by the patient as to his condition should be explained by the physician to the patient and the patient assured that he will have an excellent chance to recover normal function if such is at all possible. Confidence of the patient in the physician is essential.

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Some Remarks on the Treatment of Retrodisplacement and Prolapse of the Uterus*

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MANY PHYSICIANS often consider retrodisplacement of the uterus and prolapse of the uterus as one and the same condition. Oftentimes, in obtaining a history from a patient, she will tell you her physician said she has falling of the womb, and after a careful pelvic examination, it will be found she has a retrodisplacement and not a prolapse of the uterus. This error in classification has tempted me to try to clarify the situation.

Retrodisplacement, which comprises retroversion and retroflexion, is a backward displacement of the uterus, and prolapse of the uterus is a descensus of the organ below its normal level in the pelvis. However, it is true in prolapse cases there is at first a backward displacement which is followed later by a descensus. It is impossible for the uterus to prolapse to any degree while it is in anteflexion. The causes of the two conditions are absolutely different and the management is equally different.

In this presentation I wish to discuss only the management of the two conditions.

Retrodisplacement of the uterus should be considered in four groups:

Group I. Simple retrodisplacement, due to disturbances of the normal mechanics, physics or dynamics of the pelvic organs.

Group II. The inflammatory, in which the uterus is displaced by a tubo-ovarian mass and often drawn back by adhesions.

Group III. The acquired, as the result of injury or relaxation consequent upon childbirth, with subsequent subinvolution of the uterus and its supporting ligaments, or due to new growths of the uterus or adnexa.

Group IV. Congenital, where the woman has no inflammatory condition or has never borne children.

Prolapsus uteri is seen in both the married and the unmarried woman. In the unmarried woman, it is usually associated with spina bifida occulta, and is quite difficult to cure. In the married woman, the condition is the result of damage caused by the passage of the child through the pelvis. Prolapse, usually, is accompanied with cystocele and rectocele. The cause of prolapse is not the lacerated pelvic floor, but, however, it is natural to suppose that lacerations of the perineum have a great part to play in most cases, for it acts as a support to the pelvic contents.

Prolapse, usually, is seen in cases where a history is obtained of a hard, long labor that was terminated with high forceps or a difficult breech extraction, or the baby was delivered through a not fully dilated cervix injuring the upper pelvic diaphragm forming a vaginal hernia with resultant cystocele and rectocele. The reason most cases of prolapse are seen after menopause is because the tissues lose their tonicity and become relaxed and when any unusual intra-abdominal pressure is brought to bear, as lifting, straining, coughing, etc., the uterus protrudes from the introitus.

In prolapse of the uterus the broad and uterosacral ligaments are elongated, the vaginal canal dilated, the perineum relaxed and usually lacerated. The cervix and the body of the uterus are frequently enlarged from passive congestion, edema and hyperplasia. The cervix may be lacerated or eroded and at times very much elongated. To cure the prolapse it is important to cure the accompanying cystocele and any form of treatment undertaken must be with that in mind. The pelvic floor is to be repaired in 100 per cent of all cases.

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Intelligently to discuss the treatment for prolapse of the uterus with its accompanying cystocele we must first determine whether childbearing is, or is not, a factor to be considered. The problem for consideration in the young childbearing woman is absolutely different from that in a woman whose uterus is incapable of reproduction or is past that period. The methods at our disposal for the correction of prolapse when childbearing is not a factor, are more certain of permanent cure in their final results than are the methods available where the parts must be called upon to bear the strain of subsequent labors.

The treatment for prolapse of the uterus is operative and non-operative. There are many cases of prolapse occurring in the aged which for constitutional reasons are not suitable for operative work, even though the work is vaginal and usually carried out under local anesthesia. These cases can best be treated by pessary. The Menge pessary is by far the most satisfactory. It is made in several sizes and consists of a hard rubber ring with cross bar in one piece, and knob or handle in another piece. The ring is first introduced after replacing the uterus in the pelvis and then the knob is fastened into the ring in place and does not allow it to turn over and fall out. The good qualities of this pessary are only appreciated after one has used it for some time. There are several other vaginal pessaries that have been recommended to correct cystocele but none so satisfactory as the Menge. Most other pessaries can be inserted into the vagina by the patient herself, and it has always been my experience that any pessary for prolapse is very easy to fall out by coughing, sneezing or any other unusual intra-abdominal pressure.

The operative treatment for prolapse of the uterus must be one that will suit both the childbearing and the non-childbearing woman.

THE CHILDBEARING WOMAN

1. Abdominal and vaginal operation.
    a. Abdominal: shorten the round and sacro-uterine ligaments.
    b. Vaginal: repair cystocele and rectocele.
2. Abdominal: hysterectomy, complete or supravaginal. Repair cystocele and rectocele.
3. Vaginal: plicating the broad ligaments across the anterior surface of the uterus. Amputate the cervix. Repair rectocele.
4. Vaginal: hysterectomy and interposition of the round ligaments (Mayo). Repair rectocele.

THE NON-CHILDBEARING WOMAN

1. Abdominal and vaginal operation.
    a. Abdominal: fixing the uterus to the abdominal wall.
    b. Vaginal: repair cystocele and rectocele.
2. Vaginal: plicating the broad ligaments across the anterior surface of the uterus. Amputate the cervix (Baldwin-Fothergill). Repair rectocele.
3. Vaginal: interposition operation (Watkins). Repair rectocele.
4. Vaginal: hysterectomy with interposition of the round ligaments (Mayo). Repair rectocele.
5. Vaginal: colpocleisis (La Fort).

Most cases of prolapse of the uterus can be permanently corrected by one of the above operations. It is necessary that the case be very carefully considered from all angles, and the operation selected that will best suit the case. No one operation will cure all cases. Barring complications such as infections, etc., if the proper operation is selected for the particular case I am firmly convinced a cure should be accomplished in more than 95 per cent of the cases operated upon.

Prolapse in the childbearing woman is best cured by vaginal hysterectomy with a repair of the pelvic floor if the patient desires no more children. But, if more children are to be borne then the operation of choice is either an abdominal shortening of the round ligaments and repair of the pelvic floor, or the Fothergill or Manchester operation of amputating the cervix and reefing the broad ligaments across the front of the uterus. It is my opinion in most cases of correction of prolapse in the childbearing woman that following the delivery of a child the prolapse is very likely to recur and a second operation has to be performed, and that usually is a hysterectomy.

Prolapse in the non-childbearing woman is much easier to manage than in the childbearing woman. The operation of fixing the uterus to the anterior abdominal wall and repairing the cystocele and rectocele is practically obsolete and should never be done. The Fothergill or Manchester operation is being performed more often than formerly, because it is ordinarily simple and carries with it very little shock and the permanent results are very satisfactory. However, I do not feel it is infallible as some operators do and perform it almost in 100 per cent cases of prolapse. The interposition operation (Watkins-Wertheim) I feel has its place in about 20-25 per cent of the cases and if properly carried out has excellent results. This operation is disliked very much by many operators. In carrying out this procedure the uterus must not prolapse beyond the introitus and the fundus must not be too large nor too small and if the cervix is enlongated it must be amputated. Always explore the interior of the uterus with a curette to rule out malignancy if the interposition operation is to be performed. Vaginal hysterectomy with interposition of the broad and round ligaments of the uterus is probably the most satisfactory operation from every angle. In this operation the uterus is removed and the cystocele is cured by interposing the ligaments, thus forming a good upper vaginal sling. The pelvic floor should be repaired in 100 per cent of cases. I have been able to place about 50 per cent of the cases of prolapse in this class. The results have been gratifying. Colpocleisis (La Fort) is to be done as a last resort, but at times I feel the operation has its place. Particularly in cases where the uterus has been removed, and for some reason, the entire vagina has prolapsed and the bladder and rectum hang outside the vulval ring, this form of operation seems to be about the only thing that will give relief. I have never performed a colpocleisis on more than six patients.

In considering the treatment of retrodisplacement of the uterus we have many factors to consider,i.e., age of patient, single or married and if married, number of children living, and whether or not the uterus is fixed or movable.

Groups I and IV are usually symptomless and hence need no treatment. Group II, in which the uterus is fixed backward by an inflammatory mass with adhesions, usually calls for an operative correction, although conservative measures may be tried. Group III, the acquired type, following childbirth with injury or relaxation of the tissues and which comprises more than 50 per cent of all retrodisplacements, should be treated at first by conservative means, then later if necessary, by operation by one of the several methods described.

After having made the diagnosis of retrodisplacement, the next point to determine is whether or not it is freely movable, and the treatment adopted depends on whether the uterus is movable or adherent. The condition of the pelvic floor is important. As in most cases of acquired retrodisplacement the floor is relaxed or lacerated and must be repaired.

The treatment of Group III, the acquired type, I shall describe in detail. With a movable uterus the first step is to bring the uterus forward by an ordinary bi-manual examination. This is very easily done in the recently delivered patients and in many instances will remain afterward without any further treatment. If the uterus cannot be brought forward by a bi-manual examination, a tenaculum forcep is placed on the cervix and downward traction is made to draw the uterus downward and forward and away from the promontory of the sacrum. With the two vaginal fingers, raise the fundus as high as possible so that the abdominal fingers pressed deeply into the back part of the pelvis, gently drawn forward in a sweeping movement, will bring the fundus to a normal forward position. This usually can be performed without any anaesthesia and with very little pain. The patient's attention should be attracted away from what you are doing. If patients are unusually nervous and will not allow you to manipulate the uterus, an anesthetic may be used to relax the tissues and very materially simplify matters.

After the uterus has been brought forward, it is necessary to keep it there by some form of support. Hodges, Thomas and Smith first recommended vaginal pessaries for this purpose and now on the market are several varieties, but they are all some modification of these three types. One should acquaint himself with all the details of a particular pessary and by using it skillfully and intelligently he should get excellent results. Do not insert a pessary until the uterus has been brought forward. The old lever action of the pessary is not to be considered. The pessary is not used to push nor to prop the uterus forward. All the pessary does is hold the cervix well back in the pelvis, and then the uterus mechanically remains forward. Pessaries are of many sizes and shapes and the best results are obtained by making the pessary fit the immediate condition present. When being worn they should cause no discomfort to the patient. They do not interfere with intercourse or any other vaginal manipulation. They do not cause cancer. It is true they do cause some irritation to the cervix which is followed by a vaginal discharge but a pessary should not be worn long enough to cause chronic irritation. A daily douche usually keeps the pessary clean and it should be removed and cleansed monthly. The vagina should be inspected for pressure necrosis which sometimes happens, but clears up readily by leaving the pessary out for a few days.

The time at which the pessary may be discontinued varies in different cases, and in each case is more or less a matter of trial. A very good rule is to leave out the pessary after the uterus has remained in position for six months. After the pessary has been removed and the patient returns to the office in two weeks and the uterus again is found in backward position, the pessary is reinserted and worn for another six months. After a period of twelve months have elapsed, the pessary should be removed and if there is a recurrence of the retrodisplacement with the same symptoms that were relieved while wearing the pessary, then the treatment of choice is operative by one of the known methods.

Operative treatment is indicated in practically all cases of fixed retrodisplacement, except in those in which the fixation is due wholly to the sequelae of pelvic cellulitis or scar tissue about the vaginal vault. Of course, operation is required only in those cases in which troublesome symptoms persist in spite of treatment for the pelvic inflammation.

The operative measures for holding the uterus forward are very numerous and may be considered from three approaches:— (a) through the inguinal canals, (b) through a median abdominal incision, and (c) through the vagina.

The most commonly advocated are (a) through the inguinal canals—the Alexander-Adams extraperitoneal shortening of the round ligaments. This operation is rarely performed because you do not have access to the pelvic organs for an examination. (b) Through medial abdominal incision (I) Gilliam technique. Although very commonly practiced by many surgeons this is a very unsatisfactory operation because the round ligaments are brought straight through the abdominal wall and sutured on top of the recti fascia. There is always a window left in the abdomen between the abdominal wall and where the ligaments are drawn through the recti muscles. A loop of intestine is liable to slip through this window and cause an intestinal obstruction. Also, the fanned out ligaments are just under the subcutaneous tissue and skin and many women, particularly thin women, at the time of menstrual period complain severely of soreness in the lower abdomen and can hardly stand the pressure of light clothing. (2) Gilliam-Crossen technique. H. S. Crossen modified Gilliam's technique by drawing the round ligaments through the abdominal wall near the internal ring and suturing them together in the median line on top of the recti muscles under the recti fascia. If the round ligaments are sufficiently long they are sutured to each other across the median line and if they are not, they are sutured under the fascia of its side. This modification preserves the two marked advantages of the Gilliam operation, namely, the definite forward pull and the effective utilization of the strong part (uterine end) of the ligament both of which aid in securing permanent correction of the retrodisplacement, even against a strong backward tendency and the vicissitudes of parturition. It eliminates the two disadvantages of the Gilliam technique I have above outlined. This probably is the best operation for shortening of the round ligaments. In many cases it is best also to shorten the sacro-uterine ligaments in order to keep the cervix well back. (3) Webster-Baldy technique. A favorite of the general surgeon, but not the gynecologist. In this operation the round ligaments are brought through the broad ligaments just under the utero-ovarian ligaments and sutured to the posterior surface of the fundus moderately low down. This operation has a wonderful temporary effect but in many cases there is a tendency to recurrence, especially after childbirth. Probably the second best operation for shortening the round ligaments is the (4) Dudley technique—shortening of the round ligaments by a reefing process. This operation is quite extensively used in some parts of the country and has its place particularly in women who have simple retrodisplacement and are desirous of becoming pregnant. The abdomen has been opened for an appendectomy or other reasons and the uterus is found to be backward. The reefing process usually keeps the uterus well forward. (5) Coffey technique. Anterior folding of round ligaments. There are numerous other ways of shortening the round ligaments operation advocated and the advantages of each upheld by its author claiming excellent results in the particular case. (c) Through the vagina. Mackenrodt-Duhressen technique. An operation where the bladder is separated from the vagina and the uterus, and the uterus is fixed high up to the vaginal wall and the underlying fascia. This is a fixation operation. (6) Wertheim-Vineberg technique. Vaginal shortening of the round ligaments. Vaginal shortening of the round ligaments for correction of retrodisplacement is not practiced as much as formerly, as it has the disadvantage that the pelvic organs cannot thoroughly be explored.

In my experience the operative treatment for retrodisplacement has been only fairly satisfactory. If one searches the literature he will find that over one hundred operations are listed for this condition. This being true, we must suppose that something is wrong with our operative treatment and turn our attention to a more permanent correction of this common condition. It has been my practice to treat retrodisplacement wherever possible, by conservative or supportive treatment, and only operate as a last resort. In the fixed retrodisplacements operation is the only choice, but in movable retrodisplacements, non-operative treatment is preferable. If an operation is to be performed the operator should very carefully study his case and classify it, be sure of his classification and perform the operation that is best suited to the particular case. In the last several years, in cases of persistent retrodisplacement that are easily corrected by a pessary, I usually advise that an adequate family be borne and then operate for the displacement by performing a high supravaginal hysterectomy rather than shorten the ligaments by one of the numerous methods. I recommend high supravaginal hysterectomy in these cases because there is a great tendency for the uterus to return to its backward position following one of the ligaments operations. Also, in a high supravaginal hysterectomy there is always some endometrium left and the patient will continue to menstruate, at least slightly, and thus relieve a great psychological condition which is often seen in women on whom a hysterectomy has been performed.

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Hyperinsulinism: Definition and Diagnosis*

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MY MOTIVES for introducing the following discussion of hyperinsulinism are two: first, to arouse more general awareness of a disease which frequently is curable, and second, to plead against designating as hyperinsulinism conditions associated with low levels of blood sugar in which the low levels of blood sugar are not attributable, with high probability, to an excess of insulin. The symptoms are much the same in hypoglycemia, whatever the cause. Particularly impressive are hunger, weakness, disorientation and striking prompt relief by taking sugar. I hope to make clear, however, that episodes of hypoglycemia do not of themselves establish proof of excessive insulin, and to justify restriction of the term "hyperinsulinism" to those cases in which operation on the pancreas can be expected to effect lasting relief.

The disease diabetes may be defined as a primary disorder of pancreatic function which involves an insufficient supply of insulin and is characterized most consistently by a persistent tendency to displacement upward of the level of the blood sugar. The disease hyperinsulinism is the clinical opposite of diabetes, being characterized by displacement downward of the level of the blood sugar. The hyperglycemia of diabetes and the hypoglycemia of hyperinsulinism may be corrected by appropriate adjustment of the intake of food, but in both diseases correction accomplished by this means is impermanent. In hypoglycemia as in diabetes a primary disorder of the pancreas is responsible for the disturbance of the level of the blood sugar with an effect which in each instance is continuous.

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Hyperglycemia itself is not a disease but a symptom. High values for blood sugar are encountered in many conditions other than diabetes mellitus. Similarly hypoglycemia is a symptom which is encountered in a number of abnormal states other than those of pancreatic origin; namely, in pathologic conditions of the liver, in cases of sufficient function of the anterior lobe of the pituitary body and irregularly in cases of insufficient function of the adrenal cortices or of the thyroid gland. It also is a symptom of both organic and functional disturbances of the para-sympathetic nervous system. A number of writers have expressed the opinion that such nervous types of hypoglycemia represent hyperinsulinism (or dysinsulinism). With this opinion my colleagues and I disagree. It is based on the assumption that the pancreas in cases of nervous disorders is intermittently provoked to excessive activity, an assumption unsupported by satisfactory evidence. In my opinion and that of my associates isolated attacks of spontaneous hypoglycemia are not in themselves sufficient evidence to justify a diagnosis of primary disorder of the pancreas, whereas hyperinsulinism, as here defined, is a disease originating in the pancreas.

Another consideration enters into the definition of hyperinsulinism. In primary hyperfunction of insular tissue the export of insulin is badly adjusted to the need for insulin. Although always excessive for postabsorptive requirements, it may be too small to meet the need for insulin after meals. In consequence the taking of food may elevate the concentration of the blood sugar and even cause glycosuria in the same case in which the level of the blood sugar invariably falls to pathologic levels on prolonged withdrawal of food. Actually the export of insulin by a normal pancreas, to compensate for abnormal needs, at times must exceed that encountered in cases of true hyperinsulinism. I can explain by referring to the experiments of Young, in which, after several weeks, diabetes was produced in previously normal dogs by daily injections of extracts of the anterior lobe of the pituitary gland. The earlier injections elevated the values for blood sugar only transiently; that is, if the injections were discontinued, the values fell again to normal. A number of dogs were killed at this early stage of the experiments, that is, before permanent diabetes had been produced, and in them the islands of Langerhans appeared hyperplastic and revealed other signs of increased secretory activity. Under the circumstances of these experiments, until the pancreatic islands had been exhausted, the export of insulin probably was extreme, although it still was not large enough completely to compensate for the injection of the diabetogenic hormone. Clinical conditions, comparable to the condition Young produced experimentally, are encountered in cases of overactivity of various endocrine antagonists to the islands of Langerhans, and in such cases also we probably are confronted with large exports of insulin. This might be called "compensating hyperinsulinism," but it is not the disease we are concerned with in what we define as hyperinsulinism.

DIAGNOSIS

Hyperinsulinism, as so defined, has been established with complete reliability only for patients with hypoglycemia in which operation or necropsy has revealed an adenoma or carcinoma originating in the islands of Langerhans of the pancreas. The number of cases has been small; only twelve were identified in The Mayo Clinic in twelve years. However, in the same period of twelve years nearly an equal number of patients were operated on without finding tumors, the operation being done because the tendency to downward displacement of the level of the blood sugar was persistent and the symptoms presented were indistinguishable from those of the patients with tumors. Under such circumstances, but only then, and always provided no other organic cause for hypoglycemia can be ascertained, is it justifiable, in my opinion, to assume the existence of primary overactivity of nontumorous insular tissue. Such a condition would be analogous to hyperthyroidism in those cases of hyperthyroidism in which tumorous changes are not found in the thyroid gland, analogous, that is, to the condition which is diagnosed as exophthalmic goiter. In exophthalmic goiter diffuse cellular hypertrophy and hyperplasia can be identified in microscopic sections of thyroid tissue. In analogous cases of suspected hyperinsulinism, without tumor, sections of pancreas sometime but infrequently, reveal what looks like hypertrophy of the islands of Langerhans. However, estimation of the amount of insular tissue is attended with insuperable difficulties; the ability of the microscopist to recognize pathologic variation in individual insular cells is by no means comparable to his ability to recognize abnormality in the cells of the thyroid gland, and in a number of these cases subtotal resection of the pancreas or other comparable procedure has been curative.

The foregoing explains why a degree of uncertainty attends diagnosis in many cases of hyperinsulinism. Before exploring the pancreas a diagnosis can at best only be presumptive, namely, a decision as to probabilities. Nevertheless, in all cases of abnormal depression of blood sugar levels, such a decision must be made; because if the evidence for primary overactivity of the pancreas is inadequate, an operation is uncalled for, but otherwise an exploration should be performed. Insular adenomas are prone to become malignant and on this account alone they should be excised. Their removal provides lasting relief, in those cases in which hypoglycemia depends on insulin exported from tumors, and if no tumor can be found, in a case that satisfies the criteria demanded for a diagnosis of hyperinsulinism, surgical methods for reducing the total export of insulin from the pancreas are available.

In arriving at conclusions as to probabilities we are guided largely by the presence or absence of extra-insular conditions known to influence homeostasis of the blood sugar. A review of these reveals (1) a group of disorders of the glycogen depots; (2) a group of abnormalities of various glands of internal secretion other than the pancreas, and (3) a group of disorders of the nervous system, some organic, others functional.

1. DISORDERS OF GLYCOGEN DEPOTS.—Gross disorders of hepatic parenchyma.—It was pointed out earlier that almost complete hepatectomy was necessary to provoke hypoglycemia in dogs. In view of this we are not surprised to find that hypoglycemia only occurs as a terminal event in most cases of hepatic disease. This is true in hepatic atrophy of undetermined origin, as well as in hepatic atrophy provoked by poisoning with cinchophen, chloroform or phosphorus, in yellow fever, and in cirrhosis and cancer of the liver. Frequently with extensive hepatic involvements by cirrhosis or cancer the level of the blood sugar remains undisturbed, but a classical case of very low values for blood sugar and symptoms of hypoglycemia was reported by Elliott, Nadler and Wolfer.

Selective hepatic disease.—In a few cases of disease of the liver, contrary to rule, the glycogen mechanism seems to have been disturbed without gross interference with other hepatic functions. Among such cases are two which were reported from the clinic by Judd, Kepler and Rynearson. In them abdominal operations revealed no abnormality of the pancreas, slight portal cirrhosis and extensive fatty metamorphosis of the liver. The patient in one of these cases previously had been diabetic; also she was known to have taken large doses of sodium iso-amylethyl barbiturate and other sedatives. The patient in the other case had not been diabetic nor had she used drugs. In both cases the serum bilirubin was normal in value and evidence of general loss of hepatic function as provided by the bromsulfalein test was slight. Other possible examples of disturbance of the glycogen function of the liver in the absence of comparable loss of other functions are a case of toxic hepatitis reported by Cross and Blackford and three cases of cholangitis reported by Coller and Jackson. In the same category is glycogenosis (von Gierke's disease). Thus far glycogenosis has been recognized only in children. The patient in the first case of the kind to be fully reported (Parnas and Wagner) later became diabetic (Wagner).[1]

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[1] An investigation by Seckel of the rate of postmortem hepatic glycogenolysis in two fatal cases, in one of which an insular carcinoma was found, fills a gap in our knowledge. When Allan, Power, Robertson and I described the original case of pancreatic tumor with hyperinsulinism, attention was called to a very high glycogen content in the liver, and it was suggested that an equally unusual case previously reported by Parnas and Wagner might represent a similar condition. The case of Parnas and Wagner, of hepatomegaly, hypoglycemia, ketonuria and retardation of growth of a nine-year-old child, is now regarded as the first case of glycogenosis (glycogen disease, von Gierke's disease) to be described. It was learned later that a fundamental abnormality in glycogenosis is inhibition *in vivo* and *postmortem* of hepatic glycogenolysis, and in discussions of its pathogenesis hyperinsulinism, time and again, has been suggested as responsible. Not determined, however, either in the original case or in any of the numerous cases of hyperinsulinism which subsequently have been reported, was whether postmortem glycogenolysis was abnormal in hyperinsulinism. This, Seckel investigated in his cases; one an instance of carcinoma of the islands of

Disease of the muscles as a cause of hypoglycemia.—In a case of progressive muscular atrophy McCrudden and Sargent found a value of blood sugar of 0.064 gm. per 100 cc. and noted that administration of carbohydrate was beneficial for the asthenia. Likewise Messini is said to have reported episodes of hypoglycemia in progressive muscular dystrophy. However, Rosenow's systematic examination of patients with muscular disorders revealed values for blood sugar which, while tending to be low, were all in the normal range.

2. ABNORMALITY OF OTHER GLANDS OF INTERNAL SECRETION.—Pluriglandular dyssynergia.—The category of pluriglandular dyssynergia has been used by some writers as a wastebasket into which to put unusual cases of hypoglycemia when clear-cut evidence was not available to determine which endocrine gland or glands were primarily involved. This never is a satisfactory diagnosis.

Adrenal glands.—Hypofunction of the adrenal cortex in Addison's disease leads less frequently to episodes of hypoglycemia than might be expected. Compensatory suppression of the pancreatic islands presumably interferes. However, occasionally in the crisis of Addison's disease and otherwise if patients with this disease are deprived of carbohydrate by long starvation, very low levels for blood sugar have been encountered. Porges was first to call attention to hypoglycemia in Addison's disease, and necropsy in two cases of hypoglycemia reported by Welty revealed tuberculosis of the adrenal glands associated with lymphatism. Rushton, Cragg and Stalker described a case of spontaneous hypoglycemia from The Mayo Clinic attributable to atrophy of the adrenal glands, and cited other instances from the literature.

Greenwald and Eliasberg encountered low values for blood sugar in two cases of severe burns. The patients were children. Subsequent experiments with rabbits revealed that death after burns may result either from initial shock with excitation of the adrenal glands and hyperglycemia, or later from adrenal degeneration and hypoglycemia.

Thymus.—Hyperthymism as a cause of depression of the level of the blood sugar was suggested by MacLean and Sullivan. Messini likewise encountered hypoglycemia in a case in which the thymus was hypertrophic.

Thyroid. — Hypothyroidism is infrequently complicated by depression of the level of blood sugar and symptoms of hypoglycemia are as unusual in myxedema as they are in Addison's disease. However, Janney and Isaacson found moderate lowering of the concentration of blood sugar and obtained flat blood sugar time curves in cases of myxedema, and Goldzieher suspected hypothyroidism in twenty of 112 cases of chronic hypoglycemia. Also Carmichael described what he called "hyperinsulinism" in association with hypothyroidism.[2]

Sex glands.—The sex glands probably contribute unimportantly to the regulation of the level of the blood sugar, and evidence that disturbance of them is ever a cause of hypo-

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Langerhans, the other a case of spontaneous hypoglycemia in which a massive fibroma was found on the dome of the right lobe of the liver. Comparatively high content of glycogen was encountered in the liver and muscles in both cases, but postmortem hepatic glycogenolysis was approximately normal or only slightly decreased.

An important review of the literature on glycogenosis was published recently by van Creveld, who with Snapper gave the first clinical report of a case of it in 1928.

[2] It is unusual for hyperthyroidism to be suggestive of hyperinsulinism. This occurred, however, in the following case of exophthalmic goiter.

The patient was a farmer, forty-eight years of age, who because of complaints of upper abdominal pain had been on a milk and cracker diet. The pain usually was accompanied by a ravenous appetite. The attacks occurred every two to four months, and in October, 1938, such an attack was associated with marked nervousness, tremor, episodes of dizziness, insomnia and waves of heat and sweating. The patient's weight by then had fallen from 165 to 135 pounds (78.4 to 61.2 kg.). Determinations of the basal metabolic rate were made but they were inconclusive, and the fasting value of blood sugar had been found to be 0.060 gm. per 100 cc. A diet high in carbohydrate had been prescribed with frequent feedings. Other symptoms included marked dyspnea, palpitation and a great loss of strength and endurance.

On examination at The Mayo Clinic tremor and a moist skin were noted, but the thyroid gland was not conspicuously enlarged. The systolic blood pressure was 146 mm. of mercury, the diastolic 90 and the pulse rate was 96 beats per minute. The fasting blood sugar was 0.083 gm. per 100 cc.

The first impression given by the patient was not that of hyperthyroidism although symptoms of hyperthyroidism existed, especially the loss of weight, weakness of the quadriceps muscle and the peculiar, intense nervousness associated with the euphoria which the late Dr. Henry Plummer regarded as characteristic of exophthalmic goiter. The diagnosis of hyperthyroidism was confirmed by three successive basal metabolic rates. These were +41, +31 and +27 per cent. Lugol's solution was prescribed and proved somewhat beneficial. Subsequently subtotal thyroidectomy was performed and 10 gm. of thyroid tissue were removed. The definite characteristics of exophthalmic goiter, parenchymatous hypertrophy and hyperplasia were noted in the thyroid tissue removed. Gain in weight and disappearance of all preoperative symptoms followed the operation.

glycemia is entirely inadequate. The ovaries are affected by disease of other glands of internal secretion, but that this contributes to the hypoglycemia of hypopituitarism, for instance, is highly improbable. However, Cornell, Le Winn and other authors have commented on the occasional occurrence of hypoglycemia in pregnancy, and Longcope's case of scleroderma possibly should be placed in a category of hypoglycemia attributable to disease of the gonads. The value for the blood sugar in his case was 0.041 gm. per 100 cc.; symptoms were noted and necropsy revealed bilateral interstitial orchitis and atrophy of only one suprarenal gland.

Pituitary body.—Destruction of the posterior lobe of the pituitary gland does not seem to be attended by low values for blood sugar or symptoms attributable to low levels of blood sugar. On the other hand, sufficient destruction of the anterior lobe results in severe hypoglycemia. Cushing, 1912, reported a value for blood sugar of 0.039 gm. per 100 cc. in a case of chromophobe adenoma of the pituitary and comparable observations have since been made by others. In some cases of chromophobe adenoma of the pituitary gland with low levels for blood sugar, as in one reported by Cushing, symptoms referable to the hypoglycemia have been absent; in others severe convulsive episodes with loss of consciousness have occurred. The literature on this subject has been reviewed by J. Wilder, who himself reported important observations. From a study conducted at The Mayo Clinic by Foley extensive destruction of the anterior lobe of the pituitary gland appears necessary before any disturbance of the regulation of the blood sugar can be detected. Foley examined the patients in twenty-six successive cases of chromophobe tumor of the pituitary gland, and found only one who had pathologic values for blood sugar. In this instance the values were as low as 0.030 gm. per 100 cc. In the other cases, although other signs of hypopituitarism were present in the majority, the lowest postabsorptive value was 0.072 gm. per 100 cc.[3]

Low renal threshold for dextrose.—In renal dextrosuria when the renal threshold is greatly depressed restriction of the intake of carbohydrate may result in hypoglycemia. Phlorhizin poisoning, which lowers the renal threshold for dextrose, has been observed clinically only by Mandel and Lusk, who gave phlorhizin to a criminal. However, Fischler called attention to the symptoms observed in dogs poisoned with phlorhizin. His designation "glycoprive intoxication" placed emphasis on the etiologic significance of the associated hypoglycemia.

3. DISORDERS OF THE NERVOUS SYSTEM. — Organic disease of the brain.—Sporadic instances of hypoglycemia have been encountered in schizophrenia, melancholia, hebephrenia and other psychoses, and by Rathery, Derot and Sterne in cases of subdural hemorrhage. Severe hypoglycemia was found by Birnbaum and Wood to accompany the seizures of general paralysis. The observation suggests that other diffuse lesions involving the brain stem may be responsible for some cases of hypoglycemia, lesions, for instance, that might result from previous severe attacks of hypoglycemia induced by injections of insulin or from other causes. It has occurred to me that such lesions might explain convulsive episodes irregularly associated with very low levels of blood sugar observed in certain cases of diabetes in which the level of the blood sugar is unusually variable.

The explanation of hypoglycemia in cases of organic disease of the brain is that irritation of centers in the brain stem disturbs a nervous regulation of the blood sugar. However, the usual result of irritation of the base of the brain is hyperglycemia, not hypoglycemia.

Epilepsy.—A number of writers, among them Harris (December, 1933), have expressed the view that hypoglycemia may be of etiologic significance in idiopathic epilepsy, at least in the provocation of attacks. Holstrom, however, considered the lowered levels of blood sugar found at the time of attacks to be an effect of the attack on the vegetative nervous system. The clinical similarity between some attacks of severe hypoglycemia caused by true hyperinsulinism and the attack of idiopathic epilepsy has frequently led to the mistake of diagnosing epilepsy in cases of hypoglycemia. This has been emphasized by Harris (Feb. 4, 1933).

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[3] Cases of diabetes mellitus have been reported by Lyall and Innes and MacCallum in which amelioration of the diabetes accompanied the development of chromophobe tumor of the pituitary gland. An excellent review of the literature on hypoglycemia is contained in a publication of Meythaler and Ehrmann. They cited Eidelsberg as believing that a low flat blood sugar time curve can be taken as a rough measure of hypofunction of the anterior lobe of the pituitary body. This I consider very doubtful. Such low flat curves are frequently obtained with perfectly normal subjects, and Foley in his study at The Mayo Clinic obtained low flat curves (mean height 0.117 gm. per 100 cc.) in only 19 of 26 cases of chromophobe tumor. In the other 7 the curves had a high peak.

Functional disease of the nervous system.—In many cases of symptomatic hypoglycemia the patient is found to be afflicted with one or another of the various neuroses. I reviewed the associated diagnoses in those cases from The Mayo Clinic in which a diagnosis of hypoglycemia had been recorded. The cases numbered 138. In thirty-three of them the associated diagnosis was hyperinsulinism, in six it was hepatic disease; in one necropsy revealed adrenal atrophy, in one the pituitary gland was destroyed by a chromophobe tumor, in eight the renal threshold for dextrose was depressed, and in two clear evidence existed of organic disease of the brain. When the number of the cases, in which the hypoglycemia seemed to depend on primary disorders of glands of internal secretion, was subtracted from the original number, 138, it left eighty-seven cases, and of the eighty-seven an associated diagnosis of some type of neurosis had been made in seventy-two. Among the seventy-two there were two cases in which migraine was named, six of duodenal ulcer associated with some form of psychoneurosis, six of hysteria, eight of idiopathic epilepsy, and fifty in which the physician had recorded chronic nervous exhaustion or psychoneurosis.

Hypoglycemia associated with neurosis is what I referred to in the introduction of this chapter as a nervous type of hypoglycemia. The patient, as a rule, is an emotionally unstable person. He complains of hunger and weakness before meals, and may report that he has fainted on occasion. If so, he has recovered consciousness in a few minutes without treatment. He often complains of low or high pulse rates, irregular respiration and immoderate perspiration, but these symptoms usually are not greater in his episodes of hunger and weakness than at other times. He may be hungry and weak at mealtime, but his hunger and weakness disappear in an hour or two if the meal is not taken. Especially notable is an absence of any trouble at night, and when determinations of blood sugar are made after the night's fast the values are not abnormally low.

In this nervous type of hypoglycemia the symptoms and the low levels of blood sugar usually are related more to the taking of food than to withdrawal of food. The episodes appear two, three or four hours after meals, and particularly after the ingestion of carbohydrates, whereas long periods of fasting are not productive of symptoms. If dextrose is given to such patients, as in the standard dextrose tolerance test, the hypoglycemic phase of the blood sugar time curve is often exaggerated, with very low values at the second, third or fourth hour. At this time the patient may experience symptoms, but he will recover without treatment and can fast afterward for twenty or more hours without the return of symptoms, and with a reasonably satisfactory level of blood sugar at the end of the fast.

The failure of the blood sugar values to remain at pathologically low levels during fasting is evidence that the pancreas is not continuously secreting insulin in such cases. Experiments with protamine-zinc insulin have revealed that a very small continuous supply of insulin suffices to cause pathologic levels of blood sugar in fasting subjects. The assumption that the pancreas, in cases of this type, is intermittently provoked to excessive activity by nervous stimulation is unsupported by evidence, and it is more probably that the hypoglycemia encountered in them is a result of direct action of the nerves on the glycogen mechanism of the liver.

The neurologic picture in these cases of nervous hypoglycemia is that of instability of the autonomic nervous system with predominance, as a rule, of features of vagus irritation. In many of the cases of spontaneous hypoglycemia which I placed in this group, the associated diagnosis was vagotonia.

Effort hypoglycemia.—Patients with nervous hypoglycemia seem less able than others to withstand effectively the strain placed on the homeostasis of the blood sugar by exercise. Exercise if sufficiently strenuous may produce severe hypoglycemia even in trained healthy athletes. This was demonstrated by Levine and his associates and by Jokl. Since knowledge of it has become general, athletes have taken to eating sugar before competitive exertions. Not all runners in a marathon race are affected alike. Even before it was learned that eating sugar would prevent collapse some were able to complete the race with a normal level of blood sugar. The type of person who is most likely to fail in this respect is the type with instability of the vegetative nervous system[4].

Lactation hypoglycemia.—The sparing effect of lactation on the insulin requirement of diabetic women received comment before. Stenstrom and others have observed depression of the level of the blood sugar in normal nursing women and at times this was associated with symptoms. The same condition is observed in highly bred cows, in which it goes by the name of milk fever, although there is no fever (Harding).[5]

DIAGNOSTIC CRITERIA

With a good history and careful examination the extra-insular forms of hypoglycemia which depend on disease of organs other than the pancreas usually can be identified. There remain the cases of nervous origin, and distinguishing the hypoglycemia encountered in them from the hypoglycemia of hyperinsulinism is the really difficult task. In making this differentiation Whipple has been guided by three criteria. When they are met, his diagnosis is hyperinsulinism and the patient is accepted for operation. They are (1) a postabsorptive blood sugar value of less than 0.050 gm. per 100 cc., (2) symptomatic attacks of hypoglycemia which occur only when the patient is fasting, and (3) relief of such attacks by administration of sugar, preferably intravenously, and without the patient's knowledge of what is injected. By adherence to these criteria of operability and employing an operative technic for mobilizing the duodenum so that the posterior aspect of the head of the pancreas can be brought into view, Whipple has discovered tumors of the islands of Langerhans in fifteen out of eighteen cases in which operation was performed.

The criteria we have used in The Mayo Clinic for selecting cases in which tumors ought to be looked for surgically differ only in minor particulars from those of Whipple. They are (1) normal health and evidence of stability of the autonomic nervous system prior to the first episode of hypoglycemia, (2) postabsorptive levels of blood sugar of less than 0.060 gm. per 100 cc., and (3) intolerance for fasting.

PREVIOUS HEALTH.—In all of the cases of insular tumor that have been encountered in The Mayo Clinic, and in most of those reported in the literature, the patient enjoyed normal health up to the time of the first episode of hypoglycemia. This first episode, in all but a few cases, occurred not many months before the patient came under medical observation; subsequent attacks followed with increasing frequency. A year or two after the onset of symptoms nearly all of the patients required feedings at night and in the daytime between meals, or attacks occurred with such frequency as to be incapacitating. Previous health and this type of course are encountered in cases of hepatic hypoglycemia and in those of severe hypofunction of the anterior lobe of the pituitary gland. They are not characteristic of the hypoglycemia of the nervous origin. Nothing can be told in the attack, but if between attacks the patient is emotionally well adjusted, and if the history indicates that prior to the first occurrence of attacks he was free from neurotic complaints, the suspicion of primary disease of the pancreas is strengthened. On the other hand, evidence of emotional instability or the existence of other stigmata of autonomic instability (low blood pressure, sweating, low or high pulse rates, irregular respiration and irritable bowels) some years before the first attack, speaks for instability of the nervous elements of the blood sugar regulating mechanism and weighs against a diagnosis of hyperinsulinism.

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[4] A mountain climber with a blood sugar value of 0.048 gm. per 100 cc. associated with anginal pain, was encountered by Bickel. The electrocardiogram revealed nothing abnormal and the development of the symptoms could be prevented afterward by eating a breakfast containing more carbohydrate before a climb. Bickel stated that in his experience such "effort hypoglycemia" is a common occurrence among patients who have unstable vegetative nervous systems.

[5] Although the explanation of lactation hypoglycemia, usually given, is an abnormal abundance of milk, a more likely one, I suggest, is that the persons affected are individuals with irritable autonomic nerves. An etiologically dissimilar milk sickness was attributed by Bulger and his associates to poisoning of cattle with the plant, white snakeroot (Eupatorium urticaefolium). The cattle acquire immunity, but transmit the poison through their milk to their calves and to human consumers. The effects frequently are lethal. The disease was much more common formerly; in pioneer days in some localities it caused appalling loss of human life. The symptoms are attributable to extremely low levels of the blood sugar. This type of hypoglycemia should more properly be referred to under the category hypoglycemia of hepatic origin, since the parenchyma of the internal organs of affected individuals are found at death to be grossly degenerated. Carl Sandburg, in his "Abraham Lincoln, the Prairie Years," tells how Lincoln's mother, Nancy Hanks Lincoln, and Tom and Betsy Sparrow were taken down with the "milk sick." "The 'milk sick' took more people in that neighborhood (at Little Pigeon Creek in Indiana) the same year, and Tom Lincoln (Lincoln's father) whipsawed planks for more coffins. One settler lost four milch cows and eleven calves. The nearest doctor for people or cattle was thirty-five miles away. The wilderness is careless."

LOW POSTABSORPTIVE LEVEL OF BLOOD SUGAR. —In all forms of hypoglycemia the level of the blood sugar in a symptomatic attack may be very low, although in the hypoglycemia of nervous origin it is likely not to be as low as in true hyperinsulinism. Much more important diagnostically is a low value of blood sugar after the night's fast. In cases of true hyperinsulinism this value always has been lower than 0.060 gm. per 100 cc., whereas in cases of hypoglycemia of nervous origin the blood sugar level after the night's fast is usually more than 0.070 gm. per 100 cc. (Fig. 1)[13, 6]

Fasting Blood Sugar Values in Mayo Clinic Cases of Spontaneous Hypoglycemia

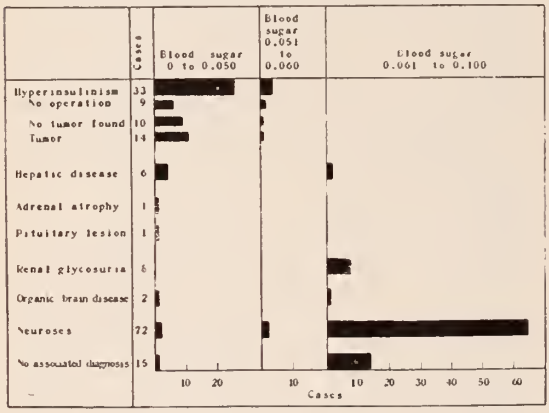

Fig. 1. Values for postabsorptive blood sugar in cases of spontaneous hypoglycemia at The Mayo Clinic.

INTOLERANCE FOR FASTING (THE FAST TEST). —The first attacks of hypoglycemia, early in the course of hyperinsulinism often are precipitated by some unusual exertion, and at this stage differentiation of hyperinsulinism from effort hypoglycemia of nervous origin presents great difficulty. As a rule, however, first attacks in hyperinsulinism occur in the early morning before breakfast, which is very suggestive because in cases of nervous hypoglycemia attacks almost never occur at this time. With true hyperinsulinism food must be taken at least with usual regularity and if a meal is missed, an attack is likely to follow. With hypoglycemia of nervous origin, fasting, as has been said, is tolerated well. In a suspected case in which the level of the blood sugar is above a diagnostic level we subject the patient to a supervised "fast test." In this test all food is withheld for a period of thirty hours, unless before the end of such a period characteristic symptoms have been provoked and a characteristically low value for blood sugar has been determined. Water is not withheld, but tea, coffee and drugs are not given and smoking is not allowed. The patient is encouraged to be up and to exercise mildly, but not unusually. He must remain in the hospital and arrangements are made to determine the concentration of blood sugar immediately on the appearance of symptoms or otherwise at intervals of six hours. When symptoms appear, they are allowed to develop

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6. In only four cases in the group of cases of spontaneous hypoglycemia with an associated diagnosis of neurosis was the value for postabsorptive blood sugar lower than 0.070 gm. per 100 cc. The patient in the first of these cases was a woman aged thirty-four years, who had had petit and grand mal convulsions for fourteen years. Her attacks came after eating as well as before and could not be prevented by eating. Treatment with phenobarbital proved effective, so that only one attack occurred in the year following its regular use. Values for postabsorptive blood sugar ranged from 0.046 to 0.075 gm. per 100 cc. At the conclusion of a fast test of twenty-four hours the value was 0.078. Blood sugar values obtained at the time of attacks were within a normal range.

The second case was that of an unmarried young woman who in 1934 received the diagnosis of constitutional inadequacy, hysteria and anorexia nervosa. The values of postabsorptive blood sugar were 0.064 and 0.067 gm. per 100 cc. At the conclusion of a fast of seventeen hours a value of 0.059 was obtained. This patient was last heard from in October, 1938. She was no better, but no worse.

The third case was that of a young nurse. A diagnosis of hyperinsulinism had been made elsewhere. Values for postabsorptive blood sugar ranged from 0.062 to 0.085, but after a twenty-four hour fast a value of 0.085 was obtained. Blood was obtained for examination at the time of a number of episodes of disorientation, double vision and headache, but in no case was the value for sugar in these attacks below physiologic limits, and recovery from the attacks occurred every time spontaneously. Two months later an operation was performed elsewhere for acute appendicitis. The surgeon explored the pancreas and found nothing abnormal.

The fourth case was that of a child four years of age with capricious appetite, poor eating habits and irritability. The body weight was 28½ pounds (12.9 kg.) and the height 38 inches (96 cm.). A postabsorptive blood sugar value was 0.050.

One case in the group of cases with no associated diagnosis and a low value for fasting blood sugar also should receive special attention. The patient, a boy five years of age, had always been well until one morning on which he awakened, asked for water, refused breakfast and slept again until 10:00 o'clock. He then took more water but no food and played with other children. Before the midday meal he began to grit his teeth, "froth at the mouth" and perspire. Examined by a physician half an hour later he was found unconscious, with flaccid muscles, slow, irregular respirations, but normal color. The breath smelled of acetone. The boy was taken to the hospital where he was catheterized and blood was drawn. The urine was not abnormal, but the value for the blood sugar was 0.026 gm. per 100 cc. Administration of dextrose intravenously was followed by prompt return to consciousness. Subsequently blood sugar values obtained before breakfast and in the course of a dextrose tolerance test all were normal. Three years have passed since this episode and the child has remained perfectly well and free from any evidence of hypoglycemia.

to the point of loss of orientation, and then but not until then, or at least not unless a value for blood sugar of 0.040 gm. per 100 cc. or less has been obtained, is sugar administered as a restorative.

The fast test is not intended for application in cases of evident insufficiency of the liver, adrenal or pituitary glands. Such disease can be recognized by other means. The test is for use when no extrapancreatic cause of hypoglycemia is apparent, or when convulsive states such as epilepsy are to be distinguished from hyperinsulinism. The chief value of the test is in distinguishing between hypoglycemia dependent on instability of the vegetative nervous system and that attributable to primary disease of the pancreas. In a case of nervous instability the patient tolerates the fast with minimal inconvenience, and the level of the blood sugar is usually as high at the end of the period of thirty hours as it was at the beginning. Whereas in hyperinsulinism the development of symptoms almost always necessitates the termination of the fast long before the end of twenty-four hours, and the blood sugar then is lower than 0.050 gm. per 100 cc.

Less reliable diagnostic criteria.—In our experience the dextrose tolerance test has been of little value in the diagnosis of hyperinsulinism. The hypoglycemia phase following that of hyperglycemia in a standard dextrose tolerance test varies widely with different healthy subjects, or with the same subject on different days. Furthermore, to judge from what we have seen as well as from the literature, all types of blood sugar time curves may be encountered in cases in which an operation later has revealed an insular tumor (Fig. 2).[14]

The elevating effect of an injection of epinephrine on the level of the blood sugar is unreliable diagnostically. In many cases of established hyperinsulinism it has been slight or absent; in others it has been present or even marked. Injection of insulin also has been of negligible diagnostic help.

The mere fact that symptoms are relieved by giving sugar should be interpreted with the greatest of caution. Allan correctly demanded that the level of blood sugar actually be demonstrated to be low at the exact time the symptoms are present before permitting a conclusion that any symptom is at all related to the level of the blood sugar.

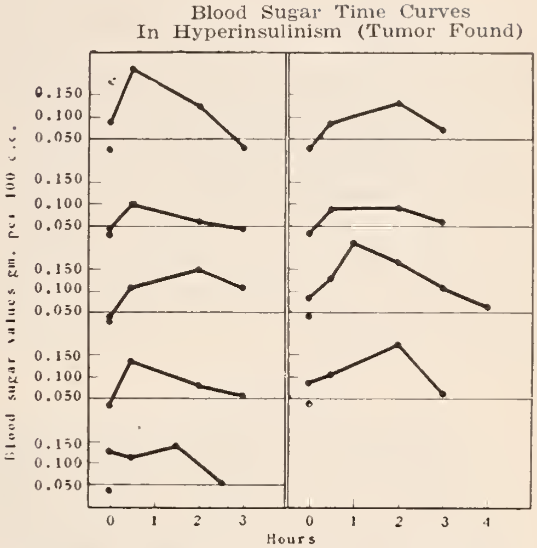

Fig. 2. Blood sugar time curves in hyperinsulinism (tumor found).

Erroneous Diagnosis in Spontaneous Hypoglycemia

While it is important to avoid a diagnosis of hyperinsulinism when hypoglycemia is caused by extra-insular abnormalities, it is equally important not to mistake the symptoms of hypoglycemia for those of other diseases. Such a mistake not only leads to failure to suspect hyperinsulinism when hyperinsulinism exists, but it also leads to failure to reorganize the numerous cases of hypoglycemia of nervous origin which can be treated satisfactorily by modification of the diet as proposed by Harris.

Kepler and Moersch found the early diagnoses, made for the most part elsewhere than at The Mayo Clinic, in twenty-one cases of severe spontaneous hypoglycemia to be as follows: attacks of unconsciousness with or without convulsive features in fifteen cases, acute confusional state in eight, stupor or coma in four, spells of weakness in four, alcoholic intoxication in three, vertigo or dizziness in three, tumor of the brain in three, hysteric spells in two, acute delirium or mania in two, spells of amnesia in two, epilepsy (as the only diagnosis) in two, and lethargy (encephalitis) in one. The physicians for the most part appreciated that they were dealing with conditions that did not conform to any of the more usual clinical syndromes.

Among the more common disorders that may be confused with spontaneous hypoglycemia are: duodenal ulcer and gastro-intestinal neurosis, because of the occurrence of spells of fatigue which are associated with hunger or mental apathy and are relieved by ingestion of food; intoxication from alcohol or drugs; idiopathic or jacksonian epilepsy; hysteria; fugues; somnambulism; narcolepsy; psychotic conditions associated with delirium, mania or depression; states of stupor or coma, such as occur in diabetes or uremia; organic diseases in which mental or nervous abnormalities occur. To avoid confusion with these the physician needs only to become hypoglycemia conscious.

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The Nursing Profession in Retrospect and in Prospect*

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TO ALL OF YOU young ladies here tonight, recent graduates of nursing, I bring the greetings and congratulations of the members of those other branches of the healing arts, medicine and surgery. We welcome you into the service, and wish you many full and happy years.

You have completed your course of training and are now ready to start on your career. Life is just beginning for you. I wonder if you realize that just three hundred years ago—a short period in the world's history—life was ending, rather than beginning, for those who had reached the age of many of you. In the seventeenth century, the average span of life was twenty-two years. Today, it is sixty-five years, or approximately three times as long as then. It is pleasant to reflect that the nursing profession has contributed in no small measure to this tremendous increase of human life. Your sisterhood has stood at the right hand of the medical profession, serving faithfully throughout dark as well as bright years, and now it has emerged into a glorious epoch wherein you may enjoy the rewards of the efforts of those who preceded you. It is appropriate that on this occasion we look backward together into the history of nursing and follow again the road which your profession has traveled to reach the heights upon which it stands today.

We are accustomed to thinking of nursing as a young profession, of only a few decades' duration. In one respect, this is true; innovations introduced within the past half century have completely altered nursing practice. The profession of nursing, however, is one of the oldest of human kind, being rooted in the deepest and noblest of human instincts: the love of the mother for her child, the sympathy of the strong for the weak. Thus, though the practice of nursing has changed, its guiding principle remains now, as ever before, one of service to the sick and helpless.

Obviously, nursing as a profession developed as a natural complement to medicine and surgery, and even in its incipiency was recognized as a dignified calling whose followers must possess exceptional qualities. In the Vedas, the bible of the ancient Hindus, written about 1600 B.C., may be found a description of the attributes required of persons who attended the sick as nurses. Strangely, these qualifications correspond to a striking degree to those which are recognized today as essential in members of the nursing profession.

In ancient times, however, nursing was practiced solely by men. Not until the Christian era were women allowed to go outside the home for this purpose. Then, following Christ's admonition "not to be ministered unto, but to minister," converts began to form groups of deacons and deaconesses, whose duty it was to visit the sick and carry on the charitable undertakings of the church. These organizations, which were wholly secular, were sponsored principally by wealthy women who themselves took an active interest in the work, some of them going so far as to turn their homes into hospitals. Through their influence, the nursing activities of the church were gradually taken over by the women, to whom its privileges and duties rightfully belong and who, fortunately, have never relinquished them. The societies of deacons and deaconesses originated in the Eastern Church, being particularly strong in Constantinople; later, with the spread of Christianity they appeared in Rome, and subsequently throughout the northern countries.

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The fall of the Roman Empire brought about a decline of the secular societies, however, and their work was taken over by the church through the monastic orders. These orders, whose membership was composed of both men and women, enjoyed an exceptional freedom of action. Although cloistered and protected by the church and directed by an abbott or an abbess, the members were allowed to go out into the world, establish hospitals and nursing staffs, prepare medicaments, and receive and attend the sick. Gradually, around these monasteries were built refuges for the insane, the incurable and aged, almshouses for the poor, and asylums for orphans; as a consequence, their influence became so powerful that they dominated the practices of medicine and nursing for several centuries. It was largely because of this situation that medical science made so little progress in Europe during the Middle Ages, since the religious beliefs of the Catholic church were not in harmony with medical research. The few who attempted any scientific investigations were forced to do so in secrecy and to reveal their discoveries as divine inspirations.

Only in Spain was there any advancement in the medical world during this period. Following the Saracenic conquest in the eighth century, the Arabs introduced into Spain the ancient culture of India and Greece, revived interest in the old teachings of Hippocrates and Galen, built hospitals, organized free medical clinics and social service systems, and founded a number of medical colleges.

The crusades gave rise to a new spirit of freedom and progress which ultimately was to lead to radical changes in the political, economic, religious and cultural life of Europe. Their earliest influence was manifested during the twelfth century in the construction of many fine hospitals and the development of several nursing orders throughout the Christian world. Among these orders were three military groups, founded by the Crusaders themselves, the Knights of St. John, the Teutonic Knights, and the Knights of St. Lazarus, with each of which was associated a corresponding order of women. They devoted themselves not only to the care of stricken soldiers, but also to the relief of victims of disaster, thus performing much the same functions as our Red Cross of today. Subsequently, they were forced, under political pressure, to discontinue their charitable activities and became merely social organizations. Their names and traditions, however, are still preserved in similar societies in various parts of the world, even in our own country.

Of the other secular groups which were formed during this period, two were particularly popular. One, called the Tertiaries, was founded by St. Francis of Assisi. The members of this group interested themselves in hospital nursing and in all manner of charitable service. The members of the other, which were known as Beguines after their leader, Lambert de Begue, directed their attention principally to hospital work. They grew to large numbers, erected several hospitals, and became a strong power throughout Europe.

The new spirit which was engendered by the Crusades culminated in the Renaissance and the Reformation. With the rise of the Protestants in the sixteenth century, the older order was completely overthrown. The monasteries were closed and the nurses were deprived of the educational facilities which had been provided by the nuns. As a consequence, the care of the sick fell into the hands of the ignorant and uncouth. In the hospitals, under both civic and church rule, the nurses were subjected to a regimen so strict that few could tolerate its limitations. Certainly, there was nothing in the whole scheme to encourage nursing as a career or to promote the advancement of the nursing art.

Toward the middle of the seventeenth century, St. Vincent de Paul was instrumental in ameliorating this state of affairs in some quarters by the formation of a complete and effective nursing service, not only among the poor, but in hospitals as well. These groups, which he called Sisters of Charity, were secular in character, but very closely allied with the Catholic Church, not unlike the organizations of deaconesses which had flourished during the early Christian era. They rapidly spread throughout Europe, and so admirably did they carry on their work that the Protestant Church created similar societies, the most notable of which was that of the Kaiserswerth Deaconesses in Germany. Despite the reforms introduced by the sisters and deaconesses, however, in the vast majority of hospitals and other public institutions, the standards of nursing remained unchanged. In America, the situation was no better than in Europe. By the beginning of the nineteenth century there were several medical colleges and hospitals in the United States and Canada, but there were no schools for nurses, and nursing, which was still carried on principally by women of the illiterate class.

The middle of the nineteenth century marked the dawn of a new era in medical and surgical science. The introduction of anesthesia, the discovery that infection was induced by germs, and the subsequent development of antisepsis and asepsis, changed the whole sphere of medicine and surgery. Singularly enough, at the same time these changes were taking place in the scientific world, the voice of a new prophet was heard calling for revolutionary reforms in nursing practice. No time could have been more opportune for the inspired leadership of Florence Nightingale than this particular moment. The amazing progress in medicine and surgery led to a demand for nurses of a much higher type with special training in the duties necessitated by the new scientific order. Florence Nightingale was instrumental in meeting that demand through her tireless efforts toward the establishment of nurses' training schools. Every graduate nurse is familiar with the fact that reforms which she initiated made possible the advantages which they enjoy today. Doctors and nurses and all humanity will forever pay homage to her memory.

Since the day of Florence Nightingale the activities of the nursing profession have been extended in an ever-widening circle. The development of training schools was followed by the organization of nursing service in hospitals, and the extension of nursing care to homes and communities. As the program of expansion continued, group organizations became necessary in order to avoid overlapping of duties and to carry on the work more effectually. By this means, still other fields were opened up wherein nurses might find an outlet for their talents. Thus, specialization in nursing began. This specialization, which was a natural outgrowth of progress in medicine has become a powerful factor in the preservation of our natural health.

Practically all the specialties, however, may be classified into four groups: general nursing, public health nursing, technical work and administration and education. Each of these, in turn, comprises several different types of service, requiring even further specialization. The field of general nursing has been expanded by the establishment of hospitals for the care of patients with particular kinds of diseases, such as tuberculosis, mental disorders, contagious, and eye, ear nose and throat diseases, and the foundatilon of homes for the aged and incurable, convalescent homes, orphanages and nurseries.

Public health nursing sprang from the old practice of early Christian deaconesses of visiting the sick. This work is still carried on by the public health departments, though it has come to embrace teaching as well as nursing, the object being not merely the cure, but also the prevention of disease. In scope, public health nursing is one of the largest branches of the service, comprising such national organizations as the Red Cross, and associatlions devoted to the prevention of blindness, the conservation of child life, maternal welfare, the prevention and cure of venereal disease and of tuberculosis, and child training and mental hygiene.

Among the technical specialties open to nurses are the various forms of therapeutics, such as x-ray, physical therapy and massage, and laboratory work, research, and anesthesia. Many of these branches of medicine and surgery were formerly regarded as wholly within the province of men; now, however, is it recognized that the duties which they involve can be performed equally well, and some of them even better, by women.

Obviously, all these new activities have created a wider demand for teachers and administrators, not only in nurses' training schools and hospitals, but in postgraduate schools and public health work. Exceptional qualifications are of course required of the nurse who is accepted for these positions, but for those who are equipped, the field is an attractive one.

From these many new developments in the realm of nursing, it would seem that little remains to be done. So long as there is room for progress in medicine and surgery, however, there will be room for improvement in nursing standards. The present trend of all medical science is toward the prevention of disease. In pursuing this ideal, the medical profession needs the assistance of more nurses of the Florence Nightingale type—nurses with vision, initiative, fortitude, educational background, and an enthusiasm for service. Therefore at this beginning of your life work, I can make no better suggestion than that you strive to emulate her example. You have far greater opportunities than did she. If your zeal compares with hers, you can become a vital force in this new and tremendously important field of service.

A Consideration of the Diagnosis and Treatment of Indigestion*

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INDIGESTION is the term applied by a person to various abnormal sensations referred to the abdomen or gastro-intestinal tract. When he attempts to qualify the term he is frequently quite vague, and the accuracy of description depends upon his intelligence and command of language, as well as the severity and definite character of the discomfort.

The most commonly used terms are sour stomach, acid stomach, burning, heartburn, fullness, swelling and gas. Pain is seldom used, and discomfort and colic rarely when the primary complaint is indigestion or dyspepsia.

The terms swelling, bloating and gas are variously used to describe what is apparently the same sensation. Gas is particularly indefinite, as it is used when there is a sense of distension and tightness, and the complaint is common even when direct questioning reveals that there is no actual flatus or belching beyond usual; and very rarely are the last two distinguished.

The foregoing sensations have nothing to do with the chemical process of digestion. In many people certain foods pass undigested through the gastro-intestinal tract, and the person is only aware of it when he sees the unchanged food in his feces. On the other hand, foods may be properly digested and absorbed and the person complain bitterly of indigestion.

The physiological explanation for the foregoing is the fact that the only sensations that arise below the cardiac end of the stomach are due solely to disturbances of motility of the hollow muscular tube of the tract. The gastro-intestinal tract of a conscious person can be cut with a knife, burned with a cautery or perforated with instruments and no sensation felt, but if stretching of the muscular walls of the gut be done, discomfort is felt ranging from that of mild character to severe pain in proportion to the amount of tension exerted.

The stomach is normally accustomed to the presence of a strong mineral acid, and it is absurd to think that a relative increase in strength of the normal acid could make the difference between complete comfort and the burning distress that can occur. The same strength of acid that is normal in the stomach causes burning when introduced into the esophagus. For this reason, it is only disturbed motility of the stomach, causing regurgitation of stomach content into the esophagus, that produces the sensations variously described by the patient as sour stomach, heartburn or acid stomach and referred to by the doctor as pyrosis, acid regurgitation, water brash or excessive acidity. These sensations occur regardless of whether the stomach acidity is normal, decreased or increased.

With excessive contractions the patient complains of fullness, bloating, swelling or gas. We have made a study of the question with many patients who complained of "gas" in whom x-ray films of the abdomen showed no more than the usual amounts of gas in the intestinal tract, and very frequently not as much as seen in the average comfortable person. However, definite evidences of spasm appear. Similar work has been done by Ferreira at Mayo Clinic with the same results. There is no difference between the sensation produced by distension of the muscular walls and that produced by tension on the walls from contractions of the musculature against itself, as occurs in spasm. In other words, there can be tension without distension. That this is true is confirmed by observation on persons with nearly complete organic pyloric obstruction in whom the stomach is enormously dilated and will contain litres of fluid and still the patient not be aware of any marked discomfort.

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The sensation of gas leads to swallowing of air with consequent belching in an unconscious effort to get relief. There is no fermentation in the stomach, and all belching is due to swallowed air.

Pylorospasm causes upper abdominal discomfort and a sensation of a knot in the stomach or of fullness and tightness. And achalasia, or tonic contraction of the pyloric ring, can cause definite and even severe pain.

Duodenal spasm can cause pain sometimes simulating ulcer, and by contracting the orifice of the common bile duct in the duodenal wall can cause distension of the gallbladder with production of a gallbladder syndrome, though the bladder be normal. The deep incisura of the stomach opposite an ulcer is an example of pain produced by marked and persistent spasm.

The foregoing expositions explain how symptoms are produced and aid a clearer conception of the problem, and point the way toward a more rational treatment of symptoms; but a final solution of the patient's difficulties depends on determining the cause of the disturbed motility. As far as the character of symptoms is concerned, there is seldom anything distinctive of any particular pathologic condition. While the duodenal ulcer syndrome is frequently characteristic, ulcer symptoms not infrequently are atypical and any distinctive symptoms may be entirely absent. There is no essential difference in the character of symptoms in simple gastric ulcer and a malignant one. Since they are all based on the same disturbance of motility, there is no difference in the quality of symptoms produced by early cancer, gastro-intestinal allergy or functional disturbances due to upset of the autonomic nerve control of the gastro-intestinal tract from emotional disturbances. While spasm of the gastro-intestinal tract can cause functional disturbances of the gallbladder, organic disease of the gallbladder can reflexly cause disturbances of motility of the gastro-intestinal tract and the symptoms be indistinguishable. Tuberculosis can cause the same symptoms as thyroid disease, uremia and congestive heart failure with edema of the gastro-intestinal tract. Coronary disease not infrequently causes upper abdominal discomfort and sense of distention, with gas and belching as seen in gallbladder disease, tuberculosis, gastric carcinoma, gastro-intestinal allergy, cirrhosis and wife or business trouble.

It can be seen, then, that proper diagnosis and treatment of a person with "dyspepsia" requires a comprehensive survey of the entire patient. A properly taken and interpreted history is of great importance. The age of the patient at the appearance of symptoms is frequently suggestive, and ulcer and food idiosyncrasy usually begin fairly early in life. In middle age is seen the appearance of gallbladder disease, carcinoma, cirrhosis and heart disease, arteriosclerosis begins, and when marked sclerosis of the mesenteric vessel or the central nervous system occurs, distressing digestive symptoms may appear.

The qualitative relationship of food to the appearance of the symptoms is of importance when it is definite. Merely generalization, such as fatty, greasy or fried foods, is of little importance, since patients who have different conditions attribute the production of their symptoms to these foods. However, a consistent relationship between definite articles of food, such as chocolate, onions, eggs, etc., should be given due weight. The circumstances of a person's daily life under which symptoms have a tendency to appear should be investigated, as many cases of functional dyspepsia are the results of eating when under tension or when tired and harrassed, and "the sorrow which has no vent in tears may make other organs weep." The use of laxatives and enemas should be determined, because the chemical enteritis that is produced by these agents results in disturbed motility and many cases of functional indigestion can be cured by their cessation. It is unnecessary to discuss the ulcer syndrome, as the definite character of discomfort and its time relationship to eating are too well known. The possibility of exposure to various toxic substances should be considered. Handlers of benzine products, particularly gasoline containing lead, may develop gastro-intestinal symptoms as the first sign of intoxication. The excessive use of tobacco can cause disturbances of motility. Painters, printers and other persons exposed to inhalation and absorption through the skin of various toxins can develop gastro-intestinal disturbances. Discomfort which awakens a patient from a sound sleep is quite suggestive of an organic rather than a functional cause of symptoms.

The examination of the patient should be as extensive as the circumstances would indicate. An important point is to establish the presence or absence of organic gastro-intestinal disease, which necessitates a careful physical examination of the entire person with particular reference to the abdomen, and a properly made x-ray examination deserves emphasis. The misconception is too common that the ownership of an x-ray machine and the ability to make shadows on celluloid automatically places one in the position of being able to make x-ray examinations. Nothing could be further from the truth, since the ability to make and interpret properly x-ray examinations of the digestive system requires a high degree of training and long experience in the study of x-ray shadows and their correlation with pathologic changes. X-ray examination of the gallbladder may or may not be done, according to indications from the history and physical examination, but since this must be done before filling the intestinal tract with barium, in case of doubt cholecystography should be done before gastro-intestinal examination. The same applies to examination of several specimens of feces for parasites and ova and cultures for pathogenic bacteria. If no organic trouble can be demonstrated, such as ulcer, cancer, gallbladder or appendiceal disease, gastritis, etc., and only functional disturbances are found, the entire patient should be surveyed in a search for disease of other organs with approximate x-ray films of chest, electrocardiogram, etc.

If no constitutional disease can be found, the history should be carefully reviewed in an effort to determine if the function of digestive disturbance is due to pure nervous tension or if it is probably individual food idiosyncrasy or exposure to extraneous toxins. Food sensitization can be proved by test diets, whereby the patient is given for a period of two or three days only those foods which experience has shown rarely to cause trouble. Our experience with skin tests for food sensitization has been discouraging, as there is not necessarily any relation between the reaction of the skin and gastro-intestinal tract to a certain food. If relief results from the initial test diet, one food can be added at a time until the foods that cause trouble can be determined and eliminated permanently.

After the correct diagnosis has been reached, the indications for treatment are clear. If ulcer is demonstrated, any one of the various methods of treatment advised by different writers can be used with about equally satisfactory or unsatisfactory results. We will not enter into a discussion here on the treatment of ulcer, and suffice it to say in generalizing that so far no satisfactory treatment for ulcer, either medical or surgical, has been found. Almost any kind of treatment will produce apparently brilliant results in some persons, and the most elaborate and painstaking treatment will be entirely unsatisfactory in others.

No reference need be made to the necessity of removal of definitely diseased gallbladders and appendices. Time does not permit discussion of the treatment of functional gallbladder disturbances or biliary dyskinesia when these conditions are present, or of the numerous other intra- and extra-abdominal infections or organic causes for indigestion. In the nervous types of dyspepsia, correcting as far as possible the underlying causes, such as faulty habits, with reassurance, psychotherapy and the appropriate use of sedatives and antispasmodics, frequently are productive of satisfactory results, though there are some patients who continue to have trouble regardless of the most thorough diagnosis and treatment. A sick soul is cured by change of circumstances often, by the priest sometimes, by psychotherapy rarely and by pills and potions never.

A few specific points of treatment might be mentioned. In our experience it has been rare to see a patient who obtained relief from the giving of hydrochloric acid and so-called digestants. While these might correct some error of chemical digestion, it is not logical to expect from them relief of symptoms that are due to motor disturbances.

The diagnosis of visceroptosis can only be referred to as a feeble attempt to make a definite diagnosis when nothing definite can be found by examination, and we do not remember ever having seen a patient who obtained relief from digestive disturbances as a result of any of the usual measures designed for its relief.

We have relieved many patients of indigestion merely by persuading them to stop the constant use of laxatives and enemas, thereby eliminating chemical enteritis as a cause of disturbed motility. Reference might also be made to so-called "mucuos colitis," which is a decided misnomer. There are patients who have gastro-intestinal allergy or nervous upsets with disturbances of motility, particularly irritability and spasm of the colon and more than the normal amount of mucous in the stools, but, as previously emphasized, the trouble is not in the gastro-intestinal tract, but in the patient, himself, and the colon happens to be the outstanding reacting organ. Colon irrigations or "internal baths" or "high enemas," etc., make the condition worse, and the exhibition to the patient — frequently with pride—of excessive mucous obtained by these measures impresses the patient considerably, but is merely an indication of further irritation to the gut, which attempts to protect itself by the outpouring of more mucous than was already present.

Of the antispasmodics, belladonna and atropine have shown their effectiveness by long usage. The synthetic chemicals, such as syntropan and trasentin, have certain advantages over the others, but have the disadvantage of expense. The use of alkalis for symptomatic relief of burning is certainly justified, and bicarbonate of soda is time-honored in its effectiveness. Theoretically, excessive use of a soluble alkali may be detrimental, but practically, we doubt that any real harm has ever resulted from the use of soda over long periods of time. The other anti-acids, such as calcium carbonate and the colloidal suspensions of aluminum and the many flavored alkali mixtures, are entirely satisfactory in many cases.

In conclusion, let us emphasize the fact that indigestion is a symptom or group of symptoms, based solely on disturbances of normal motility of the gastro-intestinal tract, which in turn may be due to almost anything that can go wrong with a person, mentally or physically, as a result of intrinsic and extrinsic factors. A very large proportion of cases are purely functional, and the remainder divided between diseases of the digestive system and of other organs. The successful management of the trouble depends upon determining the underlying cause of the motor disturbance.

DISCUSSION

DR. WILLARD H. PARSONS (Vicksburg): I would like to express my appreciation to the Chairman of the Section on Medicine for inviting me to be present with you and to open the discussion of the very interesting presentation of Dr. Motley.

Dr. Motley has expressed the modern concept of the diagnosis and treatment of "indigestion" and, in the main, I agree with his statements. I believe that the gastric acids vary normally to a very considerable extent and, with Dr. Motley, I doubt that hyperchlorhydria alone provokes a great many symptoms. Dr. Motley refers to pylorospasm as one of the causes of upper abdominal discomfort. In this connection, it is well to recall that cardiospasm is likewise not a rare cause of such distress and is at times confused with cardiac disease. In our clinic recently we have been greatly interested in the condition of hiatal hernia, and we are inclined to believe with Guthrie that this malady is more frequent than formerly believed. It appears that undoubtedly a number of patients have been operated upon for gallbladder disease and for peptic ulcer, who had, in truth, hiatal herniae. The latter condition can, of course, be demonstrated by adequate roentgenograms, and if present, it should be treated medically, unless the condition is severe and refractory, under which circumstances surgical intervention will afford relief with a reasonably low surgical risk.

The essayist has referred also to duodenal spasm. He states that it may stimulate ulcer and that it may cause a contraction of the sphincter of Oddi, with resultant distention of the gallbladder and consequent cholecystic symptoms. In my own experience, we have demonstrated the opposite effect of nitroglycerine on the sphincter and we have been able to confirm the work of Walters, et al, showing that nitroglycerine will frequently relieve attacks of gall bladder colic more effectively than morphine. On my own service, I have been able to observe in patients having T-tube sutured in the common duct a decreased flow of bile from the T-tube following the administration of nitroglycerine. We have injected lipiodol into the common duct, and following the administration of nitroglycerine have observed that it enters the duodenum more readily.

In our experience, contrary to the essayist, patients having duodenal ulcer usually present a rather definite syndrome and distinctive symptoms are rarely absent. I disagree with the essayist that the treatment of duodenal ulcer is so very unsatisfactory. The majority of these patients, if placed in a hospital, where they can be controlled, and if placed on a proper diet and medication, recover. Those who suffer perforation or repeated hemorrhages, or who develop obstruction, must be submitted to surgery, but the uncomplicated duodenal ulcer should not, in my opinion, ever be operated upon. Gastroenterostomy, in my judgment, should be reserved for the elderly patient with low acids and with pyloric obstruction. Under those circumstances, the results from surgery are brilliant. In the younger individual, if surgery is required, if possible excision of the ulcer should be done, and in all clinics gradually an increasing number of subtotal gastrectomies are being done for this malady. It must none the less be admitted that a small percentage of patients do have a distinct ulcer diathesis and these individuals occasionally have recurrence even following radical gastrectomy.

Dr. Motley refers to coronary disease as a not infrequent cause of upper abdominal discomfort. The distinction between coronary closure and acute upper abdominal disease is, of course, one of vital moment. The importance to the surgeon of a well-trained medical consultant is obvious. Patients who have upper abdominal disease requiring surgery and who have also coronary artery disease may usually be operated upon with relative safety. No intervention, except that of an absolutely emergent character, should be indulged in, however, until at least six months following an acute coronary closure. Also at surgery, in patients who have diminished coronary blood supply, the use of cyclopropane should be avoided.

I cannot too strongly endorse Dr. Motley's insistence upon a properly taken and interpreted history. It is also exceedingly important, as he has indicated, that physical examination should include properly taken and interpreted roentgenograms. Too often a patient is submitted for roentgenologic study on only one occasion. It is unfair to the roentgenologist to expect the proper diagnosis following one study only. In the management of gastric ulcer, for example, I think these patients should have roentgenograms three weeks after treatment is begun, and if the ulcer has not shown definite roentgenologic evidence of improvement, that patient, in my opinion, should be subjected to surgery. This statement refers, of course, only to those individuals having gastric ulcer.

Many individuals suffering allergic disturbances have been subjected to cholecystectomy and always with poor results. It has not been our experience that allergic patients fail to obtain satisfactory results following proper skin tests and dietetic restrictions.

Finally, I would like to call the attention of this section to the fact that fully one-half the patients having gastric carcinoma are utterly inoperable at the time they present themselves to the surgeon. There will be no improvement in this regard until every individual, certainly every individual forty or more years of age, who has the slightest dyspepsia is submitted promptly to roentgenologic study. Even then a fair percentage of individuals having gastric carcinoma will come with very advanced disease, for at times such lesions produce no symptoms until the growth is most extensive.

DR. MOTLEY (closing): I haven't anything to add except to qualify my remarks regarding the treatment of ulcer. I was including surgical treatment when I remarked the unsatisfactory status of ulcer treatment. I think that experience with a large number of ulcers will bear out the impression that to date there is no very satisfactory ulcer treatment. Ulcers have been treated over a long period of time by various methods in the hands of many different men, and new forms of treatment and modifications of older ones are constantly being introduced. This fact, alone, is proof that no one method of treatment is entirely satisfactory. I have seen patients who have had many consecutive medical cures of the same ulcer, and frequently one surgical cure in addition, and they still have their symptoms. On the other hand, there are many patients who do remarkably well on the simplest kind of treatment. Of course, everyone's experience is different, and mine is that ulcer patients on an average do as well with simple treatment as those who are given the elaborate treatment that is implied by hospital régime with day and night nurses, hourly feedings, intubation, etc. I am referring, of course, to uncomplicated ulcers and not those with complications which require special methods of treatment. The management of uncomplicated ulcer must be regulated according to the situation in each individual patient.

Some Observations on Cases of Bundle Branch Block*

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BUNDLE BRANCH BLOCK was first interpretated by Eppinger and Rothberger in 1910. For several years the condition was thought to be fatal within eighteen months. This idea prevailed until reports were made by such men as Bishop, Bach, King and others. Bach has reported one patient with bundle branch block who was followed for fourteen years. Bishop has reported one of eleven years' duration and King one of six years and seven months' duration. It must be realized, however, that a diagnosis of bundle branch block means a definite organic heart lesion, that an individual so affected has a crippled heart and that his activities must be considerably limited.

Before the advent of the electrocardiograph such a condition as bundle branch block was unknown and for a good many years the wrong interpretation was made of electrocardiographic tracings; left bundle branch being interpreted as right bundle branch block and vice versa. Not until 1920 was it pointed out by Oppenheimer & Pardee that this interpretation was wrong, for they found the interrupting lesion in the branch opposite the one anticipated when they examined two hearts histologically.

Since 1920 various experiments have been done on dogs and cats confirming the interpretation of Oppenheimer & Pardee. Furthermore, autopsy findings have added to the confirmation of the present interpretation. The study of the conduction system of the heart is a tedious and difficult one and it has been pointed out that an expert full-time technician can properly prepare on an average of only four to six hearts per year for study of the conduction system, for a study of every portion of the microscopically recognizable portion of the conduction system requires usually between 4,000 and 6,000 serial sections depending mainly on the size of the heart.

There are many types of electrocardiographic curves suggestive of bundle branch block but not typical of either classic left or classic right branch block. It is thought that these represent instances of intraventricular block.

The principle characteristics of bundle branch block may be stated according to Hyman and Parsonnet as follows: First, a delay in the Q.R.S. complex occurs beyond .10 sec. Second, the amplitude of the Q.R.S. complexes is usually increased. Third, the Q.R.S. complexes are notched, split or feathered. Fourth, the ventricular complex is generally diphasic, the Q.R.S. complex is in the opposite direction to the T wave, and fifth, the direction of the Q.R.S. complex in leads I and III determines the bundle branch involved.

Wilson & Herrman have shown that the Q.R.S. complex may be modified in two ways, by prolonging the time required by the excitation process to reach all parts of the ventricular muscle, and by changing the course of the excitation wave and thus also the order in which the various muscle regions pass into the active state.

Many observers have demonstrated the course of the excitation wave as it spreads through the ventricles. Hyman and Parsonnet have very aptly described this as follows—"The excitation wave enters the special conduction system of the ventricles by way of the bundle of His, it passes along the two chief branches of this structure and then frequently subdivides and terminates in the Purkinje system which lines the endocardial surface of both chambers. From the Purkinje plexus it spreads outward through the ventricular walls, toward the epicardial surface of the heart."

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*Read before the Section on Medicine at the seventy-third annual session of the Mississippi State Medical Association, Jackson, Miss., May 14-16, 1940.

Three conditions have been definitely determined as causative factors of bundle branch block. In the aged the usual cause is said to be a cardiovascular degeneration. In the younger age group rheumatism is the usual etiology and in both groups a small percentage, comparatively, is caused by syphilis.

During the last nine years at our clinic we have done some two thousand and sixty-six electrocardiograms. On reviewing these I find thirty-one in which a diagnosis of bundle branch block was made. Of these, twenty-four were males and seven females. Over half were between 40 and 60 years of age. Twenty-seven were diagnosed as left bundle branch block and four as right bundle branch block.

I have been able to follow or contact twenty-six of the cases. On analyzing this series I find that the youngest in the group was twelve years of age and the oldest seventy-nine years of age. Thirteen are known to be dead. The average duration of life of the thirteen after the condition was recognized was approximately twenty-four months. One patient lived four years and three months after the diagnosis of bundle branch block was made; this patient, incidentally, also had a duodenal ulcer. Of the twelve known living patients one patient was diagnosed bundle branch block April 17, 1931, nine years ago. This patient is apparently having no trouble with his heart; he is at the head of a large business concern and works as an executive every day. Another patient in this group diagnosed bundle branch block in January, 1933, seven years ago, has had considerable cardiac embarrassment since the beginning of the condition but has as yet shown no evidence of acute cardiac failure although his activities have been limited to less than one-fourth normal and rather recently he is beginning to have symptoms of considerable myocardial embarrassment. The third patient that I wish to mention who has been of especial interest to me principally because of his age is a young fellow twelve years of age who in May, 1936, four years ago, developed what I have interpreted as acute bundle branch block. His parents stated that off and on for about twelve months he had complained of some pain in the region of his heart and that the night before I saw him he had had a very severe attack of pain in his heart, had become unconscious and had remained so for several minutes.

Upon physical examination nothing of particular interest was found except on examination of his heart a systolic murmur was heard at the apex. Laboratory findings were all negative. Incidentally a blood Wassermann was negative. His electrocardiogram showed a definite bundle branch block with base width of Q.R.S. complexes .12 sec. and P-R interval .16 sec. He reported for observation from time to time until August, 1937. Because he was feeling so good he stopped his usual visits to my office and without seeking advice, attempted in the fall of 1939, to play football but soon had to stop as he started having severe pain in his heart and on two different occasions became unconscious. In October of 1939 he came to me for another examination. His electrocardiogram showed his condition slightly more advanced with the base width of the Q.R.S. complexes .14 second.

King, in reporting 150 cases of bundle branch block, states that the youngest in his series was 24 years of age and the oldest 57 years of age. Wolffe, Parkinson and White described a group occurring in healthy young people prone to paroxysmal tachycardia and in 1937 Evans reported a case of bundle branch block in a normal young man. The report in 1935 of Tung & Cheer from China is interesting because in ten of the sixteen cases there was right bundle branch block, one patient was 10 years old, another 11 and the others 28 or over. Bishop, in 1937, described a peculiar electrocardiographic phenomenon associated with a short P-R interval (.1 sec. or below) a widened Q.R.S. and slurring or notching of the Q.R.S. characteristic of bundle branch block except for the short P-R interval in individuals without organic heart disease. He states that this usually occurs in young individuals of the athletic type, and is seen more frequently in males than in females, has been found in individuals of all age groups—from 4½ to 62 years of age and usually occurs in young individuals prone to attacks of paroxysmal tachycardia. He further states this disorder apparently has no pathologic significance and does not in any way shorten the life span of the individual.

For many years it has been recognized that bundle branch block is not always a permanent phenomenon and Yater feels that probably if electrocardiograms were made more often the transient or intermittent nature of the block would be evident more frequently.

Of the thirty-one cases in my series all had a negative Wassermann except one patient. This particular patient was 66 years of age, had a generalized arteriosclerosis and incidentally lived for three years and eight months after the diagnosis of bundle branch block was made.

King has given some very valuable statistics as regards the effect occupation has in causing bundle branch block. He states that laborers form the largest group, making up 44.1%, housewives 23.8%, business men 16.4% and professional men only 5.7%.

It is rather interesting to note that housewives made up 25.8% of the patients having bundle branch block, in my series, farmers 19.6%, clerks 16.1%, merchants 13%, railroad engineers 6% and professional men only 3.2%.

Although bundle branch block is known to be a serious condition yet many patients have outlived the eighteen months that was at first allotted them.

The present interpretation of the electrocardiographic tracings of bundle branch block is directly opposite to what it was previous to 1920.

Statistics show that the majority of cases of bundle branch block are due to arteriosclerotic heart disease, the morbid anatomic feature being fibrosis.

The author has reported a series of 31 cases with ages ranging from 12 years to 79 years. In this series one case is known to be living 9 years after the diagnosis of bundle branch block was made, another 7 years.

Although some authorities state that it is possible to make a diagnosis of bundle branch block from physical signs, the diagnosis is practically never made or even suspected until disclosed by electrocardiographic evidence. If bundle branch block is diagnosed by physical signs it should always be confined by electrocardiographic tracings, furthermore, every heart condition in my opinion should have an electrocardiogram, for in many instances an unsuspected condition is discovered.

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DISCUSSION

Dr. G. W. F. Rembert (Jackson): Dr. Archer has prepared such a perfectly excellent paper, that I am just wondering if everybody here who is interested in electrocardiographology is really following just what he has said. It was a splendid paper. If you don't mind I will try to give you a little idea of it.

(From here Dr. Rembert's talk was an

illustration of a drawing on the blackboard and it was impossible to get a report of it).

DR. LAURANCE CLARK (Vicksburg): It is indeed a pleasure to have this opportunity of discussing Dr. Archer's excellent presentation on bundle branch block. I have been particularly interested in this condition and, in 1927, I had my first case, to be diagnosed by electrocardiogram. At this time, and for several years after this, we were of the opinion that we could prognosticate these cases not to exceed eighteen months of life. Accordingly, this was always the rule after interpreting this condition and, for about seven years, I considered my "batting average" excellent, because every one of my cases lived from three to twelve months. It so happened that most of these cases of bundle branch block were due to advanced arteriosclerosis. There was one case which I attributed to syphilis and, to date, I can only find two cases for which I feel rheumatic fever is responsible.

During the past three years, I have been extremely interested in the treatment of bundle branch block. Previous to this time, the only treatment that we had to offer was digitalis, administered in the evidence of congestive heart failure and the various sedatives for relief of pain and discomfort. The xanthine products have been used extensively, combined with phenobarbital preparations, which seem to have their place. In the last three years, I feel that we have accomplished much in the way of treating these individuals, and this has been along the line of nutrition. I will cite one case, of several others, that has been rather striking: A man, who was first seen in our clinic in March, 1937. He was a white planter, seventy-nine years of age. He came in complaining of shortness of breath on exertion, gas and belching, constipation. There had been no edema of feet, and there was no history of rheumatism in the past. He was said to have had a slight stroke thirty years previous to this visit, with no other serious illnesses in the past.

Physical examination shows pulse rate of 82, respiration, 16; blood pressure, 210 systolic, 140 diastolic. He had presented a picture of senility with evidence of generalized arteriosclerosis. The tongue was slightly furred. Laboratory study, including Wassermann, urinalysis, and white and red blood cell count, was normal. Electrocardiogram shows a distinct left bundle branch block.

He was advised as to his condition and, at this time, he stated he could walk no distance whatsoever without marked dyspneoa, so he was put on a maintenance dose of digitalis and continued under observation.

After observing this patient for three months, he was only partially relieved. The dyspnoea was still evident on slight exertion. There was also definite further evidence of congestive heart failure and, at this time, it was also noted that his tongue and buccal membranes showed definite evidence of vitamin B deficiency. He was eating poorly and only just a few things. He was given, at this time, in June, 1937, liver extract by mouth, and continued administration later of liver extract by needle. He was also given large doses of Brewer's yeast to the point of tolerance. About three months later, the patient returned after continuation of his vitamin therapy, and stated that he was feeling much better; that he noticed that he could walk with more comfort, and we, of course, felt very much encouraged and gave the credit to the vitamin B therapy. From then on, his digitalis was gradually reduced and, in the course of two or three months, he was not taking any digitalis at all, but taking large doses of Brewer's yeast and liver extract, with very satisfactory improvement. By the end of the first year's treatment, this patient was able to walk several miles without dyspnoea; his deficiency signs had disappeared, and he continues taking the vitamin B therapy, with the addition of nicotinic acid, as soon as it was on the market, and he continues to stay comfortable and enjoy life without any digitalis or any further indication for same.

There have been three other cases similar to this, but not quite so striking, and I feel that it is advisable in all cases of bundle branch block, and all cardiovascular disorders, particularly the degenerative type, to consider first the question of nutrition and concentrated doses of vitamin as important as any other form of supportive treatment.

DR. P. W. ROWLAND (Oxford): Dr. Archer's papers always stimulate the imagination. We have learned a good deal about anatomy and pathology of bundle branch block, but we have not learned much about how or when or how much to do. I like to think of the capacity of the heart as something like this. Here is the Figure 1, and here is the Figure 10. Now you can make the space as long as you please but the Figure 5 is in the middle. Now from 1 to 5 represents the capacity of the heart in ordinary everyday life. We are working there between 1 and 5, all of our work no matter what it is. When we are sleeping the heart is somewhere about 1, when we are at work in our daily vocation it is between 1 and 5, never above. In times of intense emotion, anger or extraordinary exercise, football, wrestling, or anything of that sort, it goes above 5. That is the reserve power of the heart, kept for that purpose. It never goes above 10. Between that upper 5 and 10 is what we call the reserve force of the heart—the working portion, and it is never called on except in extraordinary emotional or physical exercise. Now what are you going to do about it when we have such a thing as we call bundle branch block? It simply means a crippled heart, and it means just this, that above 5 the heart is not good. All of that force has been used. It has been destroyed, if you care to use that expression. The heart is still capable of getting along fairly well between 1 and 5, but whenever it gets above that 5 you have trouble—you have symptoms. What are you going to do with a patient in that condition? There are no drugs, they don't do any good except in an emergency. Change the manner of his life and change his environment. Now I don't subscribe to the theory that because a man has been a whiskey drinker all his life you must not save him. The theory is he is accustomed to that, you cannot afford to take him off of it, but there isn't anything in it. Change his manner of life, and his environment. If he takes late meals, cut them out; cut down on his active exercise; make him rest half the day flat on his back. If you can't do that let him alone—he will go on and die. If he won't agree to do that say, "All right, go ahead and die," and he will die.

Dr. J. G. Archer (closing discussion): I just want to thank Dr. Rembert, Dr. Clark and Dr. Rowland for their discussion of my paper. There are one or two points that I am going to emphasize, one is that bundle branch block may be diagnosed, and it must be realized that these patients sometimes outlive the 18 months that we used to allot to them. If we keep in mind that an individual after all may live more than two or three months, we will aid that individual more than if we were to give up in the beginning. The other point I wish to emphasize is that I think an electrocardiogram should be done on every case in which you suspect a heart condition.

A Valuable Adjunct in Perforated Appendices

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In November, 1939, after having read the report of Drs. Key and Burford* of the treatment by local application of sulfanilamide in compound fractures and having seen marvelous results from the treatment of acute pyogenic injections with sulfanilamide by the oral route, we conceived the idea of using the powdered drug in the treatment of acute peritonitis.

This thought had occurred to us several months previously, but we could not devise a method of application, since it is only slightly soluble in any liquid and the powder had not come into use.

Since November, 1939, there have been twenty-five cases of perforated appendix in the John Gaston Hospital which were treated by immediate operation, as is shown by the accompanying table.

Our criteria for judging operability of these patients is left largely to the judgment of the surgeon on duty when the patient arrives at the hospital. There are, however, certain general principles we try to follow: If there is no distention and the peritonitis is early, or confined to the right lower quad-

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*Key, J. Albert, and Burford, Thomas: "The local Implantation of Sulfanilamide in Compound Fractures—Its Effect on Healing." S. M. J., 33:5; 449, May, 1940.

Case	Initial	Age	Elapsed Time	On Admission Temp.&Pulse.	Blood Conc. Sulf.	Culture	Days In Hosp.	Complications
1.	R.H.	48	2 days	99.8-110	——	——	24	None
2.	L.S.	48	7 days	100 -115	——	——	25	(Cyanosis) (Per. Bladder)
3.	E.C.	22	4 days	102 -104	——	——	27	None
4.	F.P.	21	3 days	98.8- 90	——	——	14	None
5.	M.S.	4	3 days	101 - 90	——	——	20	None
6.	W.T.	45	2 days	102.8-120	——	——	14	None
7.	A.J.	52	2 days	102.8- 90	——	——	19	None
8.	E.D.	16	7 days	100 -120	——	(Strep; Staph;) (Coli; Pneumo.)	(Death) (5th day)	(Jaundice) (Pneumonia)
9.	T.C.	68	10 days	102.5-120	——	——	45	(Fistula) (Cyanosis)
10.	W.T.	32	3 days	100.4-100	1 MG.%	——	16	None
11.	C.G.	6	2 days	101.4-120	——	Colon; Staph; (Colon)	20	None
12.	W.M.	16	7 days	101.4-120	2.6 MG.%	——	41	Fistula
13.	R.S.	33	2 days	102 -120	——	(Colon; Staph;)	15	None
14.	J.J.	44	7 days	101 -100	——	(Strep; Pneumo;) (Colon; Staph;)	20	None
15.	A.A.	14	3 days	99.4- 90	1.3 MG.%	——	18	None
16.	L.H.	19	3 days	101 - 90	3 MG.%	——	17	None
17.	A.C.	50	3 days	103.4- 90	6 MG.%	(Arogenes; Colon;) (Strep;)	22	None
18.	J.D.	32	5 days	99 - 90	1 MG.%	Colon; Staph;	24	None
19.	G.D.	9	4 days	100 - 90	9.5 MG.%	——	24	None
20.	J.P.	17	3 days	101.4-110	8 MG.%	(Pneumo; Colon;) (Strep; Staph;)	16	None
21.	H.B.	49	4 days	98.8-100	19.5 MG.%	——	15	None
22.	D.C.	6	2 days	99.8-110	14.5 MG.%	Strep; Colon.	60	(Cyanosis) (Jaundice) (Abscess)
23.	C.B.	34	2 days	101.4- 90	7.8 MG.%	——	18	None
24..	J.S.	52	1 day	102 - 90	5.5 M.G.%	Colon; Staph.	18	Cyanosis
25.	H.M.	51	6 days	102 -100	4.5 MG.%	Staph; Colon.	22	

rant without a palpable abscess or mass and the general condition of the patient permits, we operate; otherwise, we practice delay until the patient is rendered operable or, in the moribund cases, the patient expires.

The following cases have been taken as they were admitted to the hospital and do not represent a selected group of cases:

In this group there are variations from 4 to 68 years, with an elapsed time from the onset of the disease until admission to the hospital of from 1 to 10 days, a temperature range of from 98.8 to 103.4 degrees Farenheit, and a pulse range of from 90 to 120. Needless to say, this group presented bizarre pictures with all degrees of peritonitis. The culture reports showed staphlococci, non-hemolytic streptococci, B. coli communis, B. Arrogenes and pneumococci. The days in the hospital vary from 12 to 60 with an average of 22.5 days.

A standard dose of sulfanilamide was used on all these cases: 20 gms. We have observed that when the drug is autoclaved it is less absorptive and that the greater the degree of peritonitis, the higher the blood concentration. This concentration is maintained only 2 or 3 days, which seems long enough to combat the infection. There have been no effects noted on the R.B.C., W.B.C. or Hbg. by the drug used locally. Cyanosis and jaundice have been seen in a few instances, but cleared rapidly. Cases with a marked leucocytosis show a rapid return of the white cells to normal.

Our cases have shown a constant normal temperature in from 2 to 16 days after application of the drug, generally 4 to 5 days after application and in no case has there been an elevation greater than 103 degrees.

These patients have appeared to be more comfortable during their convalescence than previous cases and there is a rapid return to food and drink. The character of the wound drainage has been a sere-purulent one and not the profuse one seen previously. Another striking feature has been the absence of the foul odor to the discharge.

The technique used in this series of cases was as follows: A spinal anesthetic (metycaine) by choice. A McBurney incision was made about three inches in length and the appendix removed with a cautery. Stumps were tied with chronium catgut no. 2 and inverted with a gastro-intestinal pursestring suture. Mesentery was tied with chronium no. 2 and tied over the stump. Powdered sulfanilamide was then poured into the wound from a sterile container and three large penrose drains inserted: one from the pelvis, one from the gutter by the ascending colon, and one from the stump to the outside. These were pinned together with a large safety pin and no closure attempted.

The postoperative care of these patients was a matter of treating the peritonitis by suction siphonage, replacement therapy, and morphine; usually this was stopped after two to three days and liquids begun orally, then rapid progress to a soft diet. Enematas were given only after the third postoperative day. Drains were removed from the fourth to the fifth day, depending upon the amount of drainage present. Following the removal of the drains, the wounds were irrigated four times daily with warm saline solution until drainage ceased and the wound closed. Only one case required secondary closure of the skin, and in no case was there a hernia.

The one death that occurred in this series occurred about mid-way the series in a patient who would ordinarily fall into our inoperable group. He came to us with an elapsed time of 7 days, generalized peritonitis, 2 plus abdominal distention, and was operated in hopes that the powdered sulfanilamide plus removal of the focus would save him. However, he died five days postoperative and postmortem examination showed a broncho-pneumonia with many small abscesses of the lungs and a generalized peritonitis.

Conclusions

1. We believe powdered sulfanilamide intraperitoneally to be a valuable adjunct in the treatment of operable cases of perforated appendices.
2. We have reported twenty-five cases with one death.
3. This method has proved just as effective as the subcutaneous or the oral method of using the drug, and is without the unpleasantness and complications sometimes seen in the other methods.
4. Sufficient blood concentration can be obtained to combat the process in perforated appendices.
5. Absorptivity of the drug is proportional to the degree of peritonitis and is also affected by the autoclave.
6. We have seen no mention in the literature of the intra-peritoneal use of powdered sulfanilamide.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

The Southern Medical Association will hold its thirty-fourth annual session in Louisville, Ky., November 12-15, 1940. Dr. Arthur McCormick of that city is the honored and distinguished president. He is one of the outstanding public health executives in the nation. Louisville is also noted as a medical center. It is the home of medical lights like Abell, Hendon, and Henderson. The Southern Medical is one of the strictly scientific organizations. The programs are always good and the fellowship the very best. The doctors of Mississippi have always been fond of this association and have shown their love for it by their attendance. Make your plans and be sure of your reservation if you have not already.

Tippah and Benton counties went on record for full-time health units on September 2, and so did Prentiss. This makes, we believe, forty-eight of the eighty-two counties with full-time units. There will be a number of others to follow at an early date no doubt. It will not be long as we are sure until every county in the state will have full-time health service. This is very fine and a splendid tribute to our executive secretary, Dr. Felix J. Underwood. No state in the union has an abler health executive than does Mississippi, and no state has an abler band of practitioners. We have a fine co-operative spirit between our doctors and our public health service. Let us continue to work together for the good of our people.

Statistics show that within the last eighteen years 300,580 people took their own lives, an average of more than seventeen thousand each year. In 1938 Nevada led the states with a percentage of 35.6 per hundred thousand, South Carolina had the lowest percentage with 6.7. The year before this, 1937, Nevada had the highest death rate in the United States for appendicitis, 21.8 per hundred and South Carolina the lowest with 7. South Carolina has forty-five per cent negroes while Nevada has less than two. Whether this makes a difference we do not know. We usually think that any man who takes his own life is mentally sick. And yet it seems that really crazy folks may not have a high death rate from appendicitis. In 1938 the deaths from appendicitis in round numbers was fourteen thousand. The suicide problem is one for the medical profession to take the lead in solving. If we are to meet our responsibility as doctors we must take the lead in every form of human sickness, do our part in every way to save human life and to help make it bigger and broader and more efficient.

The problem of appendicitis is one of the majors in the field of medicine. It should be studied from every angle possible. The laity should have all helpful information available on this subject. The newspaper is the best medium by which to convey the information, especially the country weekly. Deaths from appendicitis in the United States in 1937 according to the Bureau of the Census amounted to 15,340. The exact cause of appendicitis is not known, it would seem, however, that the manner of living and the type of food might play some part. Early diagnosis and early operation constitute the most important measures in lowering the death rate. Better have an operation for acute appendicitis within six hours of the onset in a six-bed hospital by a country surgeon than by a Mayo in the largest hospital in the world three days later. The laity should be taught to count a constant pain in the abdomen for one hour appendicitis until his doctor can prove it otherwise. Pain, sick stomach, tenderness, fever and leukocytosis are the major symptoms for diagnosis. The following table will show you the death rate from appendicitis in the United States in 1937 and 1938 by states. You will note that Mississippi is about thirteenth in order in 1937. South Carolina has the lowest death rate per hundred thousand, Virginia second and Maryland third. The highest rate for 1937 is found in Nevada with Wyoming and New Mexico coming next with 20.4 per hundred thousand.

The three states with the lowest death rate —South Carolina 7, Virginia 8.1, and Maryland 8.4, belong to the thirteen original. South Carolina has 30,989 square miles, 39th in size of the states, population 1,738,765 in 1930 with 45% negroes. It has 43 general hospitals. Virginia has 42,627 square miles, population 2,421,851; 26% negroes, only 23,000 foreign born; general hospitals, 81. Maryland has 12,327 square miles, one-fourth of which is water; population 1,631,526; 20% negroes; 6% foreign born; 60 general hospitals. Nevada with a death rate of 21.8 has 110,690 square miles with a population of 91,058, the smallest population of any of the states, has about 2% negroes; annual rainfall of 10 inches; very dry climate; has only 13 general hospitals; less than one-third as many hospitals as South Carolina, although it is almost 4 times its size in square miles. New Mexico, with 20.4 per thousand death rate, has 122,634 square miles, fourth largest state in area, population 423,317; negroes about .7%, general hospitals 38, only 11 in the south half. Wyoming, with the same death rate, has 97,914 square miles, population 225,565; negroes .6%; general hospitals 23. Utah, with a death rate of 19.8 has 84,990 square miles, population 507,847; dry climate, general hospitals 26; only six in southern half. Idaho, with death rate of 19.3, has 88,888 square miles; population 445,432; general hospitals 36.

In stating the above facts we are not trying to draw any definite conclusions, but some observations may be of some benefit in studying the problem of appendicitis.

The western states with the high death rate for appendicitis have high altitudes, dry climate, very few negroes, and very few hospitals compared with the states with the low rate. It is very interesting to find that the number of deaths from suicide in the United States in 1938 amounted to 17,251 as compared to 14,300 from appendicitis in the United States and that Nevada has the highest suicide rate in the United States, 35.6, while South Carolina has the lowest 6.7 per hundred thousand. Nevada with nearly four times the area of Southern Carolina has less than one-third the number of hospitals and while South Carolina has 45% negroes, Nevada has less than two per cent. It has been our observation that the negro does not have appendicitis nearly so often as the white man and certainly he is mighty slow on committing suicide. Anyway we are still strongly impressed that early diagnosis and early operation in a nearby hospital is a most important factor in the death rate for appendicitis. In other words Dr. Time holds the key position.

DEATHS AND DEATH RATES (PER 100,000 ESTIMATED POPULATION) FROM APPENDICITIS: UNITED STATES, 1937 and 1938

Area	Number		Rate	
	1938	*1937*	*1938*	*1937*
United States	14.300	15.340	11.0	11.9
Alabama	295	293	10.2	10.1
Arizona	63	71	15.3	17.2
Arkansas	216	232	10.5	11.3
California	653	790	10.6	12.8
Colorado	201	196	18.8	18.3
Connecticut	153	166	8.8	9.5
Delaware	30	31	11.5	11.9
District of Columbia	90	73	14.4	11.6
Florida	211	228	12.6	13.7
Georgia	295	317	9.6	10.3
Idaho	73	95	14.8	19.3
Illinois	940	1.047	11.9	13.3
Indiana	407	370	11.7	10.7
Iowa	304	315	11.9	12.3
Kansas	221	242	11.9	13.0
Kentucky	321	288	11.0	9.9
Louisiana	302	281	14.2	13.2
Maine	93	119	10.9	13.9
Maryland	151	141	9.0	8.4

Massachusetts	469	591	10.6	13.4
Michigan	543	591	11.2	12.2
Minnesota	264	307	10.0	11.6
Mississippi	217	225	10.7	11.1
Missouri	436	437	10.9	11.0
Montana	74	85	13.7	15.8
Nebraska	142	176	10.4	12.9
Nevada	19	22	18.8	21.8
New Hampshire	71	58	13.9	11.4
New Jersey	446	505	10.3	11.6
New Mexico	67	86	15.9	20.4
New York	1,512	1,660	11.7	12.8
North Carolina	285	321	8.2	9.2
North Dakota	77	87	10.9	12.3
Ohio	789	863	11.7	12.8
Oklahoma	271	304	10.6	11.9
Oregon	110	127	10.7	12.4
Pennsylvania	1,031	1,085	10.1	10.7
Rhode Island	77	83	11.3	12.2
South Carolina	144	131	7.7	7.0
South Dakota	76	82	11.0	11.8
Tennessee	301	296	10.4	10.2
Texas	774	788	12.5	12.8
Utah	99	103	19.1	19.8
Vermont	41	55	10.7	14.4
Virginia	194	220	7.2	8.1
Washington	211	184	12.7	11.1
West Virginia	159	164	8.5	8.8
Wisconsin	336	361	11.5	12.3
Wyoming	46	48	19.6	20.4

Note: The 1938 rates for each state are based on the 1937 estimated populations; no estimates made for 1938.

What of the times? Whither are we tending? I doubt if any one knows or can say. The entire world seems to be disturbed and perturbed. In the past there have been crises and revolutions. But they were regional and restricted. Today, it seems to me, we are in or face, a revolution that is world wide. Change is essential to growth and progress. Yet it does not follow that all change indicates or is followed by either growth or progress. We must not forget that death and decay are evidences of change as well as are growth and progress. Released energy must and will either build or tear down—create or destroy. Only when it is properly directed can energy build or create. When not so directed destruction is certain and inevitable. What the world most needs, it seems to me, is leaders who are properly endowed, trained and equipped. Given such leaders, it follows that those whom they are to lead and direct must necessarily have training and equipment of a certain kind. This idea runs through our educational system. However, it is much to be regretted that this idea is but poorly developed. This brings us to consider the question that seems to be uppermost in every one's thinking, i. e. "preparedness." Preparedness is and always has been essential for success for both individuals and nations. John Milton spent half his life preparing for the work he purposed to do. When his friends protested he said, "I care not how late I come into life, so I come prepared."

Changed conditions necessitate changes in preparation. It is true that there are fundamental principles that will never change. (This fact seems to have been forgotten in preparing our young men for the practice of medicine). When Paul Revere sounded his warning, every man was prepared; for he had only to take down his squirrel rifle and go forth to battle. What would be the results of such preparation today? This writer is a pacifist—he believes in peace, but not at any price. The apostle Paul said "If possible live in peace with every man." He evidently knew that it would not always be possible so to live. (In the language of Patrick Henry, "Why cry peace, peace, when there is no peace?"). We are, even now, at war—we have always been at war—we always will be at war; for life itself is a warfare. But, unfortunately, many of us (quoting Patrick Henry again) "lie supinely on our backs" giving no thought to preparedness until we are overtaken and overwhelmed by disaster. I am not a sensationalist—neither am I, nor do I wish to be, a rabble rouser. Neither am I a weeping Jeremiah nor a prophet of disaster. But I feel certain that we are confronted by a crisis. Our liberty and our institutions are at stake. Time was when individualism sufficed — in pioneer days each individual cared for himself and his family. There are no open spaces now where claims may be staked. Now we are compelled to contact and to deal with others. Selfishness and greed are inborn human traits and individualism is born of selfishness. Individual safety depends on community of interests and efforts. Organization of energy and effort in which every individual, if not willing, must be compelled to do his part, is, I believe, our only hope. Hence, I believe in universal training and conscription of wealth, as well as men. We are told the cost of such a program would bankrupt the nation. Not necessarily so, even though the cost would be stupendous. Washington gave us the slogan "millions for defense, but not a penny for tribute." We have for many decades been paying tribute to money gatherers. Who knows but that this evil may prove a blessing in this time of stress and danger? I heard some one on the air suggest a plan to meet the cost. He said that the aggregate wealth of the nation is more than seven hundred billions of dollars. He suggested conscription of ten per cent of this—which would be seventy billions of dollars—and give the holders the privilege of paying in five equal yearly instalments. (We buy our automobiles on instalment). This would provide fourteen billions of dollars per year for a period of five years. Total preparedness cannot be worked out in a shorter time and this sum will meet the expense. This plan would be on a "pay as you go basis" and would not increase the public debt a single penny. We, in Mississippi, are building a splendid system of highways on a somewhat similar plan. This plan strengthens and supports all lines of business—it proves to be a boost and not a burden. Should this plan be put into operation, the holder of each thousand dollars of wealth would contribute twenty dollars to the plan each year. Who but a traitor would refuse to do this, especially since it would preserve our system of government, our lives and our liberty as well as promote our business interests? And now, what are doctors going to do about it all? Never fear—they will "do their duty though the heavens fall." We are one hundred and thirty thousand strong. There is nothing that we may be asked to do that we cannot and will not do.

— G.S.B.

As a post-script, let me urge every Mississippi doctor to express his appreciation of and sympathy for our past president, Dr. Percy Wall, in his handicap because of his illness.

— G. S. B.

MEDICAL PREPAREDNESS QUESTIONNAIRE

The American Medical Association a few weeks ago sent a "Medical Preparedness Questionnaire" to every physician in Mississippi. On the twentieth of September Dr. T. M. Dye will attend a meeting of the Committee on Medical Preparedness in Chicago and he urges that Mississippi report 100 per cent answers to this questionnaire by that time.

This questionnaire is just for the purpose of making a survey of the medical situation in the state and in no wise will have any effect on the draft when we have one.

With Our Doctors

DR. PRESTON HUNT

Dr. Preston Hunt, of Texas, president of the Texas State Medical Association. Dr. Hunt is a brother to our Dr. W. R. Hunt, of Tupelo, Miss., who has made good in the practice of medicine and is a very fine business man and a splendid citizen as well. It pays to keep your eyes on Mississippians. THE MISSISSIPPI DOCTOR congratulates Dr. Preston Hunt and we feel also that Texas is fortunate in having him at the head of their great medical organization, which claims many national characters in medicine among their membership. The following sketch of Dr. Hunt is taken from the Texas State Journal of Medicine, June, 1940:

Dr. Preston Hunt, seventy-sixth president of the State Medical Association of Texas, was born on a farm in Lee County, Mississippi, February 5, 1866, his parents also being the descendants of farm people, highly respected leaders in their community. His maternal grandfather was a captain in the Confederate Army during the War between the States. His paternal grandfather was a judge on the bench of a civil court in Mississippi.

Education came to Dr. Hunt the hard way. His early schooling prior to the study of medicine, was in the county schools of those early days, including the equivalent of our present-day high schools. At the age of twenty-one, he left home in pursuit of a career and an independent livelihood. He first became a laborer in the construction of a railroad, thus financing his way through high school. Graduating from high school in a small town in Mississippi, he removed to Texarkana, in September, 1899, where he entered the railway news business, becoming the superintendent of that department of the railway after two years of service. Having again accumulated a reserve of money, he resigned and entered the Hospital College of Physicians and Surgeons, Louisville, Kentucky, completing the first year of medicine in that institution. He then entered the Medical Department of the University of the South, at Sewanee, Tennessee, where he completed his second year in the study of medicine. A third year and the degree of M.D. were taken at the College of Physicians and Surgeons, now Emory University, Atlanta, Georgia. He was graduated in 1901.

Following graduation, Dr. Hunt returned immediately to Texarkana, where he began the practice of medicine, April 16, 1901, and where he has practiced medicine continuously since that time. Directly after taking up the practice of medicine he became associated with the Texarkana Hospital, eventually buying an interest in the hospital, and becoming a director and treasurer thereof, a connection which he has enjoyed throughout all of the years of his practice. In 1931, he formed a partnership with Dr. William Hibbits, a connection which has continued since that time.

Dr. Hunt is a member of the American College of Surgeons, having been made a fellow of that organization in 1923. He is a member of the Baptist Church, which institution he has served as a member of the board of deacons for the past forty years. He is a Knight Templar and thirty-second degree Royal Arch Mason.

Dr. Hunt rendered valuable non-military service during the World War. He was an examiner of recruits, and a member of the Medical Section of the Council on National Defense. He was Supervisor in the Fifteenth Councilor District of registration and selection of physicians for military service. In this work he had occasion to make numerous trips over the state, and even to Washington, D. C., all without remuneration, other than the satisfaction of a duty performed.

Dr. Hunt was married to Miss Hattie Hutton of Ballinger, on January 1, 1914. There have been no children. Mrs. Hunt died January 27, 1935.

Dr. Hunt has rendered signal service to his community as a public spirited citizen. He has served both as city health officer and president of his city board of health. He is a member and past president of the Texarkana Lions Club. In 1936, Dr. Hunt purchased and donated to the Tex-Ark Council of the Boy Scouts of America a 240-acre tract near Texarkana. For this property he bought materials for more than five miles of fencing, made an assembly ground and provided a ninety-foot flag pole in a section enclosed by a wall of native stone approximately 300 feet in diameter, in honor of his deceased wife. Many other fine improvements on this property given by Dr. Hunt bear witness to his beneficence.

The election of Dr. Hunt to the high office of president of the association brings to an apex (we hope not to a conclusion), a service to organized medicine of many years duration, in which service he has occupied numerous important positions, always with devotion and success. He was at one time Secretary of the Bowie (Texas) and Miller (Arkansas) county medical societies. He likewise served as president of each society, at a time when dual membership in adjoining states was permissible. The societies, which it should be said in explanation, were separate entities in those days, working together as a unit. Dr. Hunt also served as president of his district medical society. He was first Vice-Councilor for a number of years, and then for eight years Councilor of the Fifteenth District, and served six years as a delegate from his county medical society.

Dr. Hunt, upon taking over authority at the Dallas annual session, set out in full a fine lot of objectives for his administration. His statement will be found in the Transactions, printed in this number of the JOURNAL. They should be read in this connection. We are sure, and it almost goes without the saying, that the official family and the rank and file of the association, will rally to the support of Dr. Hunt in his efforts for the good of the medical profession and its dependent public. He has asked most earnestly for such support.—TEXAS STATE JOURNAL OF MEDICINE.

News and Comments

Young doctor wanted at Utica, Mississippi. Old doctor retires. Has well-equipped office.

Drs. R. B. Caldwell and R. H. Christian, of Baldwyn, entertained the staff of the Northeast Mississippi Hospital at its regular monthly meeting in August. Many other doctors were invited and the meeting was very fine in every respect. Dr. Henry G. Hill held a clinic at the Baldwyn Hospital during the afternoon.

Dr. William Allen Pusey, of Chicago, dermatologist, 74, past president of the American Medical Association, died Friday, August 30. Dr. Pusey was a native of Kentucky. He practiced for fifty-one years and was a liberal in the field of medicine. He and Dr. Alfred Hume of the University of Mississippi were schoolmates and very close friends.

Reports have it that Dr. Eugene Rosamond, of Memphis, is still improving and that his condition will be good in a few more months. This is mighty good news to the profession and to the people of the Mid-South. Dr. Rosamond's specialty is pediatrics and his ability in this field is recognized throughout the country.

Dr. W. C. Walker, of Houlka· sustained an injury to the hip on August 26. We hope it will not prove serious. Dr. Walker is known far and wide as an ever-ready orator when the ladies are concerned. Under the inspiration of the subject "ladies" his flights of oratory know no limit. Dr. Walker is now 81 years of age. He is loved and revered by every doctor who knows him.

Dr. W. A. L. McLister, of Brighton, Tenn., died at the Baptist Hospital at Memphis August 14. He was 78 and had been a practicing physician for 56 years. He graduated from Vanderbilt in 1884. He referred to himself often as a country doctor. He had many opportunities to go to the cities to practice· especially Memphis, but his idea was that the country people need a doctor as badly as those in the city. His conclusion after fifty-six years in service was that, "Medicine is getting to be too much theory and not enough practice." No man in any calling is a greater benefactor to humanity than one like Dr. McLister. He was a great builder of citizenship in its broadest sense.

HIGHLY ACTIVE VITAMIN K SUBSTANCE OFFERED BY SQUIBB IN THYLOQUINONE

Thyloquinone, 2-methyl-1, 4-naphthoquinone, a synthetic preparation of unsurpassed vitamin K activity, has been placed on the market by E. R. Squibb & Sons, New York. Dissolved in corn oil, thyloquinone is supplied in two forms for oral administration—as solution and in small capsules (microcaps).

WARNING

Physicians in Alabama and Tennessee have complained that a Mr. C. W. Myers, who claims to be representing F. A. Davis Company of Philadelphia, has taken orders for books, collected for them at the time and failed to deliver them.

He will probably attempt to continue his fraudulent operations in the southern states. Any information should be referred to the Better Business Bureau in your city or to F. A. Davis Company, 1914 Cherry St., Philadelphia.

BOOK REVIEWS

Modern Dermatology and Syphilology, by S. William Becker, M.D., associate professor of Dermatology and Syphilology Kuppenheimer Foundation, University of Chicago, 461 illustrations in text, 32 full color plates, Published by J. B. Lippincott Company, Philadelphia. Price $21.00.

In this volume the usefulness for the student and practitioner of medicine has been the prime consideration. The diseases discoursed are those commonly seen in the United States, Canada and Great Britain, and an effort has been made to devote space to the various conditions in proportion to their importance. The space allotted to the methods of diagnosis and treatment is also portioned out according to their relative importance.

This work has been prepared in an informal manner, explanatory material has been incorporated at the beginning of each chapter under "Orientation" and the book is written in the lecture style.

Arrangement of material has been made from the functional viewpoint when possible.

When this is not practicable they are classified according to common etiology. Premalignant lesions are grouped together to emphasize their importance as precursors of neoplasm.

This text makes an effort to furnish a comprehensive view of syphilis as an infectious disease, including all information necessary for the practice of everyday syphilology which is the prerogative and duty of all practitioners of medicine.

The practical presentation and adequate illustrations with liberal use of full colored plates makes this a practical, worth while book for the practitioner and medical student.

DOCTORS IN SHIRT SLEEVES, edited by Sir Henry Bashford and published by Veritas Press, New York City, 250 West 57th St., is a pleasantly interesting book. It is a musing on hobbies, meals, patients, sport and philosophy. A few years ago it seems that the LANCET conceived the idea of having doctors write about anything they wished, placing their contributions under the heading, "Grains and Scruples," which went to press each week. From these writings this volume has been compounded by Sir Henry Bashford. This book is not only different and interesting, but it is of real value. Twenty different subjects are treated by this many different men. The fisherman will find a good friend in Dr. Lewis Smith, of London. The life of a surgeon is discussed by Dr. Ogilvie. Too much prevention is quite interestingly discussed by Batten. Retirement and gardening will bring delightful respite from your mental tedium. There is also an interesting discourse on science and spiritual values, medicine and philosophy. In fact, the book will carry you for a good ride in mental gymnastics through the field of human endeavor and thought. The price is $2.50.

A TEXTBOOK OF MEDICINE (By American Authors): Edited by Russell L. Cecil, A.B., M.D., Sc.D. Professor of Clinical Medicine. Cornell University Medical College; Associate Attending Physician, New York and Bellevue Hospitals, New York City. Associate Editor for Diseases of the Nervous System: Foster Kennedy, M.D., F.R.S.E. Professor of Clinical Neurology, Cornell University Medical College; Attending Physician, New York Hospital; Visiting Physician in Charge, Neurological Service, Bellevue Hospital; Consulting Physician, New York Neurological Institute. Fifth Edition, Revised and Entirely Reset. 1744 Pages with 173 illustrations. Philadelphia and London. W. B. Saunders Company, 1940. Cloth, $9.50.

The new 5th Edition of "Cecil's Medicine" is just off the press. This splendid book is universally used wherever medicine is practiced or taught. This book is the work of 144 distinguished contributors. In it modern medicine is presented by many of the leading teachers and specialists of this country. Each man is an authority on the condition he discusses. Definitions, etiology, signs, symptoms, diagnosis, tests, prognosis and treatment are fully covered. The detailed attention spent on treatment enhances the value of this book. Forty new and rewritten subjects with 131 additional illustrations have been added to the text. This series of monographs by 144 authorities has been organized into a smoothly balanced work by Dr. Russell L. Cecil; anyone with an old edition or desiring an authoritative text book of medicine will be well pleased with this new edition. Cecil is the bible of medicine. Certainly no practitioner can afford to be without it.

DISEASES OF THE NOSE, THROAT AND EAR, by W. Wallace Morrison, M. D., Clinical Professor and Chief of Clinic, Department of Otolaryngology, New York Polyclinic Medical School and Hospital. Price, $5.50. Philadelphia: W. B. Saunders Co., 1940.

Dr. Morrison is one of the great teachers of the country, who has been constantly engaged in the teaching of otolaryngology to postgraduate students for the past 15 years. The author states that his book has been written entirely for the undergraduate medical student and the general practitioner. The book contains 675 pages and is more condensed and smaller than many of the books on this subject. The author states that the book is intended to be more practical than theoretical. Certainly this is found to be true after one reads the book. The first edition of this book came out in 1938. This new edition of 1940 is up to the minute, new, modern and streamlined in every respect.

Progress Made by Meridian Pediatrician

We doubt if there is a state in the country that has made more progress in pediatrics than has Mississippi made for the last few years. Dr. F. G. Riley, of Meridian, was one of the very first in this state to specialize in this field and the first to build and equip a hospital to take care of children and obstetrical cases. He deserves much credit for investing his funds in this type of institution for the public.

Dr. F. G. Riley is a native of Monroe County, Mississippi, where he was born in 1886 at the old homestead of his grandfather, Dr. James S. Riley, a native of South Carolina. He is a son of W. W. Riley and Minnie Lee Harris Riley, of Oxford. The family moved to Tupelo in 1900. Dr. F. G. attended Mississippi State College. He worked as prescriptionist at C. H. Clifton Drug Store for three years. He received his M.D. degree from the University of Tennessee in 1915, going from there into his first practice at Macon, Miss. The most important event in Dr. Riley's life took place in Macon, when he married Miss Hattie Frances Gardner, youngest daughter of the late Tim and Anna Gardner, of Tupelo. Soon after his graduation he located in Booneville, Miss., where he was associated with Dr. W. H. Sutherland for some time. He gives much credit to Mr. J. C. Stanley, Sr., for his help and encouragement there.

On June 1917 he was commissioned as a first lieutenant in the Medical Reserve Corps, and was called to active service a month later. From the United States Medical School in Washington he was assigned and lent to the British Expeditionary Forces in France along with 1400 other American doctors who are known in history as the Lost Legion. On his arrival in England he was assigned to a British battalion in France as a regimental medical officer for the duration of the war. He saw active service in practically all the major engagements on the Western Front. On his dismissal from the army in 1919 he was promoted to the rank of major and retained his commission in the Medical Reserve Corps until 1930.

In 1920 he took postgraduate work at Tulane University and then spent two years postgraduate work in pediatrics in Pennsylvania, 1920 to 1922, during which time he was chief resident in the Saint Christopher Hospital. Dr. Riley has two sons, Billy Gail, who is studying medicine at Vanderbilt, and Richard Franklin, 15. The proud father hopes that they will both complete their courses and carry on his work at Meridian.

The first unit of the present Riley Hospital and Clinic was built in 1930 with ten beds for children and obstetrical patients in addition to office space. This hospital has been gradually enlarged until it has a capacity of between 45 and 50 beds. The hospital is equipped in every department for diagnostic and therapeutic purposes. It has a full staff of graduate nurses, three of whom have been on the staff since the opening of the hospital. Miss Hettie Elzey is the efficient superintendent. The medical staff of the hospital is made up of leading physicians of the country. The hospital is open to any ethical licensed physician. The x-ray department is equipped with the latest shock-proof pandex machine as well as Westinghouse mobile unit with all-time technician. The laboratory is well-equipped and under the efficient superintendency of Mrs. Thayer, wife of the local pathologist, Dr. A. E. Thayer. Frozen tissue examinations are made in it for the benefit of the doctors. The hospital has two operating rooms, one delivery room, a minor operating room and one for emergency work. The nursery is equipped with the latest Hess incubator with automatic oxygen administration. It is sound-proof and air-conditioned. Each room is furnished with the best, either Simmons or Hill beautyrest mattresses. All new rooms are air-conditioned. There is one fully equipped fracture room with a Zimmer fracture bed, three oxygen tents and other modern methods for the administration of oxygen therapy. The operating rooms are well equipped in every respect including anesthetic machines and a mobile operating light.

RILEY'S HOSPITAL and CLINIC

F. G. RILEY, M.D., F.A.A.P., L.A.B.P., Owner

Meridian, Mississippi

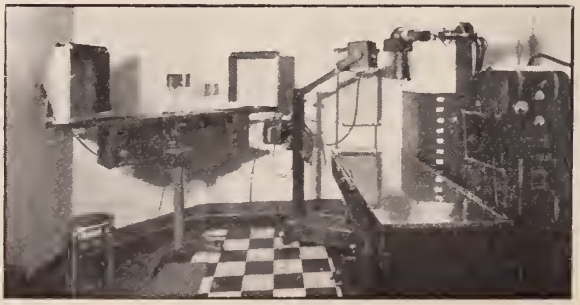
View of Basal and Electrotherapy Room.

View of Bedroom.

Laboratory Room No. 1.

Laboratory Room No. 2.

View of One Major Operating Room.



Sectional View of X-ray Department.

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Main View

South Court Entrance.

East View and Nurses' Home.

Mississippi State Medical Association

Organized 1867 **Next Meeting: May, 1941, Biloxi**

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COMPONENT SOCIETIES

ounty Society	President	Secretary-Editor	Time of Meeting
dams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
corn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
nite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
ntral Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
aiborne		G. W. Acker, Port Gibson	
arksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov
arke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
ahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
ast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
elta Medical	B. H. Higdon, Sunflower	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
Soto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
ast Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
anklin	C. A. Everett, Bude	L. Costley, Meadville	
sa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
fferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
nes	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
arshall		W. T. Harper, Fayette	
wton	W. L. Henton, Decatur	Dudley Stennis, Newton	
orth Mississippi	C. M. Speck, New Albany	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
ortheast Miss.	J. T. Senter, Fulton	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
ke	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
ntotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
uth Mississippi		Van C. Temple, Hattiesburg	
nflower		H. B. Cottrell, Indianola	
llahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
te	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
p.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
ebster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
ilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
inona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EYE

RETROBULBAR NEURITIS, Observations of One Hundred Cases, Frank D. Carroll, M.D., New York.

The author has observed these cases over a period of four years. Not included in this report are 65 cases of "toxic" amblyopia associated with deficient diets or with the use of tobacco or alcohol. The average age of these patients was 32.7 years as against 55 years of age in the series of tobacco-alcohol amblyopia. Sudden or rapid loss of vision in one eye was the most constant symptom. In seventy-eight per cent of the cases both eyes were involved at one time or another but not often at the same time, especially in the early stages of multiple sclerosis. Twenty per cent of the patients volunteered the information that the involved eye was painful on movement, while some had severe headache at onset. The visual acuity was markedly reduced in most cases and several patients lost even perception of light during the acute process. The characteristic field change was a central scotoma. In the early stage of the disease the disc usually appeared normal although occasionally the margins were blurred and a few cases showed elevation of the disc. The differential diagnosis between retrobulbar neuritis, brain tumor and tobacco-alcohol amblyopia is important. The main points of differential diagnosis in retrobulbar neuritis are apt to occur at an earlier age than tobacco-alcohol amblyopia, along with the fact that patients with tobacco-alcohol amblyopia consume these substances and usually have a diet deficient in vitamin B. The onset of retrobulbar neuritis is usually rapid and usually unilateral at onset and often bilateral later, while in tobacco-alcohol amblyopia the onset is always gradual and is always bilateral at onset, and in brain tumor the onset is usually gradual and may be unilateral or bilateral at onset. The field defects of retrobulbar neuritis are varied but peri-central scotoma, with densest part at fixation point, is most common, whereas, in tobacco-alcohol amblyopia ceco-central scotoma is the usual finding and in brain tumor hemanopic tendencies are common. Pain on movement of eye and tenderness on palpation is usually only found in retrobulbar neuritis. The treatment with vitamin B brings results only in tobacco-alcohol amblyopia. The recovery is often prompt regardless of therapy, with a tendency to recur in cases of retrobulbar neuritis, while in tobacco-alcohol amblyopia recovery is usually gradual and recurrences are rare and in cases of brain tumor the course is progressive unless the tumor is removed.

In determining the etiology of these 100 cases of retrobulbar neuritis, 37 were caused by multiple sclerosis, Leber's disease, 9; encephalomyelitis, 8; sinus disease, 2; unknown etiology, 34; and vascular diseases, syphilis, etc., comprise the remaining 10 cases. The author believes that some of these cases of unknown etiology which were followed for less than two years will probably later show evidences of multiple sclerosis. He also believes allergy plays a part in an occasional case of retrobulbar neuritis.

COMMENT: This is a well written article and offers a fine review of the etiology and differential diagnosis of retrobulbar neuritis. I was impressed with the fact that only two cases were listed as due to sinus disease. Many ophthalmologists, especially those of Philadelphia, believe that as high as forty per cent of cases of retrobulbar neuritis are due to sinus disease, while many other ophthalmologists doubt that sinus disease ever causes it.

— S. S. M.

OBSTETRICS AND GYNECOLOGY

The Mechanism of Estrin Therapy In the Relief of Dysmenorrhea, S. H. Sturgis and F. Albright, Endocrinology, 26:68, 1940.

The cause of pain in most cases of essential dysmenorrhea is not clear. Estrin therapy has been widely used and satisfactory results obtained in as high as 70 per cent of cases have been reported. Within well defined limitations of procedure the relief obtained from such therapy is not only dramatic and sure but associated with a consistent change in ovarian function. In the observations of the authors, the presence of an apparently normal corpus luteum seemed to be a prerequisite for the occurrence of cramps.

No explanation as yet suggests itself as to why, in certain individuals, the occurrence of a normal physiological process such as ovulation should be the basis of cramps which are pathological in their severity. Most normal women are conscious during menses of uterine motility at least, and moderate to severe cramps are not called dysmenorrhea until the patient consults a doctor. Hence, the dividing line clinically between the normal and the pathological is drawn only by the patient's own individual sensitivity to pain. But since an ovulatory bleeding induced in these patients with estrin is painless, the implication of ovulation as the necessary basis for dysmenorrhea seems apparent.

In the twenty-five cases studied the pain was enough to cause the patients to miss from one to several days from work. In this study progynon—B(1.7 mg. per cc. or 10,000 R. U.) was used. One cc. was injected intramuscularly every third day. A series consisted of from three to fourteen injections.

It was soon apparent that the immediate result of a series of such injections depended entirely on how soon in the month the injections were started. If the first of a series of 6 to 12 injections was given within the first week after onset of menses, the next period was invariably free from uterine cramps. If the series were not started until two weeks after onset of the previous flow, there was no change in the pains during the subsequent flow. Next, it was noted that though a completely cramp-free period followed a course of treatment if started early enough in the cycle, the next menses, when no estrin had been given, was as painful as ever. The dependence on the timing of the injections during the cycle suggested that the action of estrin was upon ovulation. A clinical study of these cases over a period of six to eighteen months showed that 82 courses of injections had been given. In 63 of the periods directly following such treatment, the patients were free of cramps.

Of the nineteen failures only two were unexplained after the most favorable type of treatment. Seventeen failures were ascribed either to (a) incorrect timing of the injections (b) insufficient number of injections, (c) lack of consecutive treatment or (d) induction of cramps with progestin. Substracting these 17 courses from the total of 82 leaves 65 courses of optimum treatment followed by 63 cramp-free periods.

The evidence from endometrial biopsies has led to the conclusion that ovulation is a sine qua non of all types of essential dysmenorrhea. In a patient with essential dysmenorrhea, a course of estrin therapy, if administered in accordance with certain specifications, will result in the absence of dysmenorrhea during the following but not during the subsequent menses. To produce this result, the course of estrin therapy should be started about the sixth day of the cycle and repeated every three days for six injections. Such therapy prevents the formation of a secretory endometrium as shown by biopsy, presumably due to an inhibitory action of estrin on the anterior pituitary, hence no ovulation. From this study and other clinical evidence it is concluded that essential dysmenorrhea cannot occur in the absence of a secretory endometrium.

Results of Amnesia and Analgesia in 175 Consecutive Cases of Labor, A. T. Lundgren and W. A. Boice, Surg. Gyn. & Obst., 70:120 (January) 1940.

One hundred seventy-five patients were treated with varying combinations of drugs in the attempts to induce amnesia and analgesia. The first group was given pentobarbital sodium in doses varying from 6-7½ grains by mouth and 1 150 grain of scopolamine subcutaneously. The second group was given 3 grains of pentobarbital sodium by mouth followed by 5 drams of paraldehyde in 5 drams of aromatic elixir orally. The third group received varying doses of pentobarbital sodium alone. At the time of delivery, all of the patients were given either a combination of nitrous oxide and oxygen by inhalation or drop ether.

The indications for medication in primiparae are good contractions at 3 to 5 minute intervals and dilatation of the cervix of from 2 to 3 fingers.

The best results were obtained in the first group, and the duration of labor was shortest in this group and the operative incidence least. The duration of labor and the length of time from the administration of the medication to the time of delivery were most prolonged in the group receiving the pentobarbital and paraldehyde.

— J. F. L.

PEDIATRICS

THE IMMEDIATE TREATMENT OF CONVULSIONS IN CHILDREN, Wisconsin Medical Journal, 39:375 (May) 1940.

This is a very interesting article and one with many valuable suggestions for the treatment of convulsions in children. It is very evident that the author has given a great deal of study to this subject. He advises to protect the child against injury, making careful examination to determine the type and cause of convulsions together with laboratory and blood determinations, examination of urine, etc.

If there is fever, he suggests the use of cool packs, cool enema, or cool sponge to lower body temperature. The author cautions against the use of hot baths for fear that, during the excitement of the convulsions, the water is made too hot and suggests that many burns have been caused by this method of treatment. It is suggested that after the cool enema has been given, that it be followed with a 50 per cent solution of magnesium sulphate, instilled and retained in the rectum.

If the convulsions do not subside in a very short length of time, the use of an anesthetic with chloroform or vinyl ether is suggested. Vinyl ether it being used considerably at this time for short anesthetic purposes in pediatric work. The possible harmful effect of chloroform cannot be considered in the treatment of the much more harmful effect of convulsions. It is suggested that the general practitioner should carry a small vial of vinyl ether or chloroform to treat convulsions if necessary. In the event that neither one of these anestretics is at hand, it is suggested that a sterile solution of 20 to 50 per cent magnesium sulphate be given intramuscularly, or a 20 per cent solution of magnesium sulphate may be given intravenously. Soluble phenobarbital may also be given subcutaneously.

In the event of a diagnosis of tetanus antitoxin is suggested to be given immediately and also the administration of tribromethanol given by rectum.

In spasmophilia or tetany, a preparation of calcium is suggested for the convulsion. Calcium chlorideiin 10 per cent aqueous solution may be given by mouth, 45 to 60 grains, by gavage if necessary. This initial dose should be followed with 15 grains every six hours for two weeks or longer. Solution of sterile calcium gluconate (10 per cent) is also suggested intramuscularly or intravenously for the first few doses in 5 to 10 cc. amounts, viosterol and acid milk given coincidentally and then continued for long periods at a time. The possibility of low blood sugar has been suggested by other authorities as a possible cause of convulsions, but this writer claims he has never seen a case caused by low blood sugar. It is also suggested that no neurologic case is completely studied without a spinal fluid examination. There are certain cases of mild or sterile meningitis which are completely relieved with one drainage of spinal fluid.

"Introcranial hemorrhage in the newborn cannot be positively diagnosed without the finding of blood in the spinal fluid. If the blood is in the subarachnoid space, it is better to drain of the bloody fluid than to allow it to clot or be absorbed. In the subdural hematoma the diagnosis may be substantiated and the convulsions temporarily relieved by the aspiration of the blood from the subdural space."

"When convulsions are due to intracranial injury, such as skull fracture or contusion, the treatment depends on many factors and generalization cannot be made. Never give opium in any form for convulsions."

COMMENT

As stated in the beginning of this abstract, this article is very timely and should be read and re-read by every practitioner of medicine.

PUBLIC HEALTH

RECENT PROGRESS AGAINST SYPHILIS AND GONORRHEA AND ITS RELATION TO THE NATIONAL DEFENSE, R. A. Vonderlehr, Amer. J. Syph., Gonor. & Ven. Dis., 23:506-510, 1939.—

The close relationship between the health of the civilian population and the physical condition of the fighting forces of a nation is stressed. The need for governmental action in the public health aspects of social hygiene work is recognized, especially the first World War's demonstration of the vast prevalence of syphilis and gonorrhea in America's man power. Before 1914 public opinion regarding the venereal diseases conspired to hide syphilis. Since then a sense of public responsibility has been gradually evolved which demands that we find syphilis, treat syphilis, and prevent syphilis.

Encouraging headway has been made in the application of new and intensified public health principles during the past few years. In 1936 the number of venereal disease clinics reporting to state health departments was 713; during 1938 the number had increased to 1,254; and in the first four months of the 1938-1939 fiscal year, the total number was 1,415, or almost double the number in 1936. In the period from 1927 to 1937 the number of serologic tests performed in state laboratories tripled. The fiscal year 1938 marked a further increase of 37 per cent in the number of serologic tests over the 1937 total. Postgraduate training has been given many health officers, physicians, public health nurses, affording practical demonstration of methods and technics in venereal disease control. Nineteen state health departments have made some form of provision for approval or licensing of laboratories for the performance of serologic tests for syphilis. Serologic surveys to determine the prevalence of the disease have given valuable information. The distribution of antisyphilitic drugs by state health departments has increased from 1.400,000 doses in 1935 to 2,800,000 doses in 1938. The total sales of arsenical drugs in the United States increased from 4,300,000 doses in 1935 to 6,700,000 doses in 1937.

There is no better example of the need for intelligent, prolonged national action than the crippling effects of syphilis on our man power, points out the author. The United States is planning a concerted drive to bring national defense up to a standard which will insure the future of our government against all conceivable odds. In doing so, we cannot overlook the need for an armed force free from syphilis. We should have learned that lesson well during the World War.

We as a nation have unhesitatingly authorized the purchase of flying fortresses at a cost of $285.000 each and the construction of battleships at a cost of $70,000,000 each to prepare for a strong national defense. Armaments are highly essential but alone they do not prepare us for war. Much depends upon the physical fitness of the men who man them. The sanity of spending money for adequate civilian control of syphilis in this country at this time cannot be questioned. Moreover, it is as vital to our national defense as are planes and ships.

FOOD AND THE WAR, Editorial, J.A.M.A., 115: 536-537, August 17, 1940.

"The situation which confronts us today indicates the need for prompt action with regard to food and nutrition as a part of our current efforts toward preparedness. The fundamental importance of good nutrition not only for those engaged in military services but for the population as a whole as the source of military units needs no argument in its behalf. The experience of many a foreign country after the first World War showed how inefficient and futile had been some of the considerations given to this problem. In the Netherlands and Denmark people were deprived of important sources of vitamin A in order that butter might be sold to other countries. As a result, numerous children developed xerophthalmia and similar conditions. In Germany the effects of malnutrition resulting from the blockade became apparent later in increased cases of tuberculosis among those who were children at the time of the war. Today German writers are emphasizing the necessity for control of nutrition as basic to the winning of any conflict."

The Journal points out that it is no secret that problems of maintenance of the food supply are already serious in the warring countries. It emphasizes the need for an appropriate scientific body in this country to advise on such questions. The National Research Council has a subcommittee on nutrition which is working on the problem of emergency and standard rations for the armed forces. and various problems come under the jurisdiction of other divisions. "What is needed is suitable co-ordination in Washington of all the various bodies that will be concerned with the nutrition of the nation. Such co-ordination can be brought about properly only by adequate representation of medicine, which includes scientific nutrition, in the Advisory Commission on National Defense." The maintenance of the food supply of the army and of the civilian population in a time of emergency is as important a question as may con-front our leaders, and deserves careful planning in the interest of the public welfare.

UROLOGY

The Effect of Testosterone Propionate on Benign Hypertrophy of the Prostate Gland, Charles D. Creevy, M.D., and Charles E. Ray, M.D., The Urologic and Cutaneous Review, July, 1940, pp. 430.

Testosterone propionate has been used at the University Hospital in the treatment of 23 cases of benign hypertrophy of the prostate. The patients were ambulatory, and ranged in age from 59 to 80 years. Symptoms varied from mild to severe, and the residual urine from 0 to 200 cc., average 55 cc. One patient had a cystostomy. All patients were subjected to cystoscopic examination before treatment. Those with fibrosis, carcinoma, or complications such as prostatic or vesical lithiasis, or diverticula were treated by other methods. The enlargement of the gland in the patient treated subsequently with testosterone propionate varied from barely perceptible to Grade II on a basis of IV. In other words, these people constituted a favorable group with mild symptoms, slight to moderate enlargement, and freedom from complications.

The hormone was given intramuscularly in doses of from five to twenty-five milligrams once to three times weekly. The total dose per patient varied from five (a single injection) to 450 milligrams (18 injections during six weeks), with an average of 147 milligrams.

Sixteen patients reported themselves as improved, five as unchanged, and two as worse. No reduction in the size of the prostate was observed either on rectal palpation (all cases) or on cystoscopy (five patients who reported improvement). The residual urine after treatment averaged 35 cc., a reduction of 20 cc.

The dosage in those materially improved ranged from 40 milligrams in eight injections to 450 milligrams in 18 injections, an average of 120 milligrams in eight injections. The dose in those unchanged varied from 125 to 350 milligrams in from six to fourteen injections, an average of 212 milligrams in ten treatments.

The two who grew worse received 35 milligrams in seven treatments and 300 milligrams in 12 treatments, and then refused to return.

All of the 16 patients who reported themselves as better at the conclusion of treatment were told to return if symptoms recurred. Five did so in from six weeks to four months. Three of these then received injections of sterile saline; the other two received sterile oil of sesame, the vehicle in which the testosterone propionate was given. All were given the impression that testosterone was being used, and all reported the same benefit as from the testosterone.

Summary and Conclusions

1. The literature bearing upon the relations between the hypophysis, testes, and the accessory sex organs has been reviewed.

2. The theories which attribute the origin of benign hypertrophy of the prostate to endocrine factors have been summarized and their defects and inconsistencies discussed.

3. The etiology of benign hypertrophy of the prostate remains uncertain; while hormones from the pituitary gland, the ovary, and the testes influence the prostate gland, experimentally their role, if any, in the production of clinical prostatic enlargement is still obscure.

4. Twenty-three patients have been treated for mild to moderate benign hypertrophy of the prostate with testosterone propionate. Sixteen were benefited, five were not affected, and two grew worse. An additional patient with complete retention was not benefited.

5. Five patients who had improved following the use of the testosterone propionate returned with recurrent symptoms. The injection of inert substances had the same effect as the testosterone propionate had previously yielded.

6. It remains to be demonstrated that the injection of testosterone propionate into patients with benign hypertrophy of the prostate is more than a form of psychotherapy.

Comment

The authors satisfactorily discuss the conflicting theories as to the etiology of, and the endocrine influence upon benign prostatic hypertrophy. I agree with the authors that surgery must be resorted to for the relief of the obstructive symptoms of benign prostatic hypertrophy.

State Board of Health

Felix J. Underwood, M.D.

ENVIRONMENTAL SANITATION AND DISEASE OUTBREAKS

The role which sanitation plays in disease prevention has been recognized from the earliest days of public health development. The mortality rates of entire communities are largely influenced by the state of environmental sanitation existing in those communities.

Recently, it has been called to attention that there are many times more outbreaks of disease, cases, and deaths resulting from faulty sanitation than are usually reported.[1] Several of the causes cited as responsible are: 1. The reporting of cases of communicable disease is frequently incomplete. 2. The epidemiological studies of cases which are reported are frequently inadequate. 3. The outbreaks which are studied are not always reported. 4. The outbreaks which are reported have not hitherto been systematically corrected and published by any central national agency. Not until 1923 did the United States Public Health Service inaugurate annual surveys of milk-borne outbreaks of disease. This more complete reporting resulted in doubling the annual number of known outbreaks. As a consequence, it was decided to inaugurate a nation-wide survey of outbreaks of disease caused by faulty sanitation in general. The reports received for 1938 make interesting study:

"Foods were a more prolific source of outbreaks in 1938 than were milk or water supplies. However, the number of persons affected by water-borne disease was far greater than the number affected by milk or food-borne disease. This was the result of a single water-borne outbreak of gastroenteritis, involving 29,250 cases, which occurred in one large city.

Of interest is the fact that the greatest number of water-borne outbreaks and deaths occurred in connection with untreated ground water supplies. This means that one of the important problems still remaining in connection with the prevention of water-borne outbreaks is a more intensive sanitary control of ground water supplies. Many ground water supplies are faulty either in design or operation or both. Unsafe water supplies caused as many typhoid fever outbreaks as did unsafe milk supplies. Thirty-three states, including Mississippi, failed to report any water-borne outbreaks whatever, whereas New York State reported 24, or exactly one-half of the total of 48 outbreaks during 1938. Only 2 of the 48 outbreaks occurred in communities of more than 10,000 population. Since these constitute about 47.2 per cent of the total population it is probably safe to say that water supplies in small communities are in general much less safe than water supplies in large communities."

Of the 42 outbreaks transmitted through milk and milk products, 38 occurred in connection with sweet milk supplies; only 1 was traced to buttermilk, 2 to ice cream, and 1 to cheese. In only 1 of the 38 outbreaks traced to sweet milk was any attempt made to pasteurize the milk, in which instance the pasteurizer was reported to have "broken down." Of the diseases produced, typhoid fever was involved more often than any other and caused more deaths. On the other hand, gastroenteritis and septic sore throat were the most prolific sources of cases. Here again, as in the case of water-borne outbreaks, the majority (88 per cent) of outbreaks occurred in small communities of less than 10,000 population, where the percentage of milk pasteurized is considerably smaller.

In the 70 food-borne outbreaks reported. those traced to pies and pastry were more numerous than those traced to any other food product. Pork and pork products were second in frequency, with fowl, salads, and home-canned vegetables responsible for 5 outbreaks each. Gastroenteritis was the disease most frequently involved, with 23 outbreaks and 1,015 cases. "Food poisoning" followed with 19 outbreaks, 817 cases, and 3 deaths; and the next most frequently involved disease was typhoid fever with 16 outbreaks, 251 cases, and 16 deaths. Whereas only a small percentage of water and milk-borne outbreaks occurred in communities of over 10,000 population, this was not so in the case of food-borne outbreaks. Here, 38 of the 70 outbreaks (54 per cent) occurred in the larger communities. It would appear, therefore, that while large communities are more advanced than small communities with respect to water and milk sanitation they do not excel with regard to food sanitation. This is not surprising since water sanitation and milk sanitation are much better understood in general than is food sanitation, pointing to the need of an intensive study of this subject.

Mr. Leslie C. Frank, Senior Sanitary Engineer of the United States Public Health Service, whose article[1] has been quoted freely throughout the foregoing, concludes with these facts: "Finally, it should be noted that the above discussion takes no account of the fact that typhus fever, with 2,300 cases and 137 deaths in 1938, undulant fever, with at least 2,000 to 3,000 cases per year, and malaria with several hundred thousand cases and several thousand deaths per year are all the result of faulty environmental sanitation."

Sanitation in Mississippi

The Division of Sanitary Engineering was established as a part of the State Board of Health in 1920. Under the able direction of Mr. H. A. Kroeze, it has conducted an effective program over the past 20 years. A report of activities for the six months' period, December 1, 1939, to June 1, 1940, calls attention to the following:

1. The inauguration of a survey of industrial establishments in Mississippi to gather information as to industrial and occupational hazards which might exist in the industries of the state. This work is being carried on in co-operation with the Division of Industrial Hygiene and Factory Inspection.

2. Continuation of the operation of the W. P. A. Community Sanitation and Malaria Control Drainage Projects. During the six months' period covered, a total of 15,193 new privies were installed on the Community Sanitation Project, and approximately 30 miles of masonry invert ditches were constructed on the Malaria Control Drainage Project. In addition to the work accomplished on the Community Sanitation Project, there was a total of 66 septic tanks and 68 sewer connections secured by members of the Division, and 7,694 privies were restored to sanitary type, thus making a total of 22,021 changes in methods of excreta disposal. These figures are exclusive of the improvements made by the full-time county health departments.

3. Installation and improvement of public water supplies and sewerage systems. Considerable stress has been placed on improvement of operation of water purification and water treatment plants, and the Division made 93 visits in the interest of such supplies during the period.

4. Inspections of scout and summer camps throughout the state, securing the necessary corrections to put the camps in proper sanitary condition for summer operation.

5. Continuation of shellfish sanitation work. Considerable improvements have been made in the type of plant and methods of handling crabmeat along the Gulf Coast, and the Division has received commendation because of the advances made in the sanitary handling of this perishable food.

6. Through the cooperation of the State Hygienic Laboratory which is now making routine phosphatase tests of samples of pasteurized milk, considerable improvement in the pasteurizing processes at a number of plants has been secured. This test, which indicates whether or not the milk has been properly pasteurized, enables representatives of the Division to direct their investigations to plants which are failing properly to pasteurize their milk. In line with its program of making pasteurized milk the safest milk possible, a total of 99 visits to pasteurization plants was made during the period. Also 12 sets of plans have been approved for new pasteurization plants and remodeling and improvements to existing plants.

7. The Division has continued its insistence on proper sterilization of eating and drinking utensils. Particularly in the full-time county health departments advancements have been made in this important phase of public health protection.

These comprise only some of the major activities of Mississippi's Division of Sanitary Engineering. There are many others, all of which have an important part in reducing the incidence of sickness and death from causes which may be controlled by environmental sanitation.

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1. Frank, Leslie C.: Disease outbreaks resulting from faulty environmental sanitation, Public Health Reports, 55:1373-1383, Aug. 2, 1940.

MISCELLANEOUS NEWS

Birth Record Requests Reach New High

The importance of accurate birth registration has been re-emphasized during this period of national emergency. The Division of Vital Statistics of the State Board of Health has been fairly inundated with thousands of requests for birth certificates, especially since the passage of the National Defense Act. Uncle Sam is not anxious to hire foreign-born citizens at this critical time when a strong national defense is one of the foremost objectives. The birth certificate, showing nationality and age, is the most acceptable proof of citizenship which can be had.

Fortunately, a large percentage of the requests has been answered satisfactorily because of the fact that birth records up to 27½ years of age are on file in the majority of cases. Unfortunately, hundreds have been denied the privilege of obtaining copies of their birth records because of inaccurate registration or failure to record the birth at all on the part of unthinking attendants. There is less of such carelessness today, thanks to the physician's appreciation of the necessity for accuracy and promptness in filing birth records. Dr. R. N. Whitfield, Director of the Division of Vital Statistics, points out that the growing complexities of our social mechanism has multiplied many times the number of instances in which a person must produce evidence of citizenship and age. Every new law which places obligations or confers benefits on a certain age group immediately increases the number of persons who must possess documentary evidence of age or citizenship. It is hoped that not a single Mississippi birth occurring in 1940 will go unregistered.

DELTA MEDICAL SOCIETY

October 9, 1940, Indianola, Miss.

Bolivar County: Dr. C. W. Patterson, Rosedale—"Pyelitis in Children."

Humphreys County: Dr. T. J. Barkley, Isola—"Tularemia." Discusser: Dr. W. S. Taylor, Isola.

Leflore County: Dr. G. Y. Gillespie—"Endometriosis with Clinical Report."

Sunflower County: Dr. J. C. Carlson, Moorhead—"Treatment of Chronic Leg Ulcer." Discusser: Dr. W. A. Hull, Indianola.

Washington County: Dr. Charles Berry, Greenville—"Open and Closed Treatment of Compound Fractures." Discusser: Dr. L. B. Otken, Greenwood.

Guest Essayist: Dr. H. T. Smith, President, Arkansas Medical Society, McGhee, Ark.—"The Doctor's Responsibility."

DESOTO COUNTY

The moral effect produced on a patient has a marked influence on the effect of remedial agents. In Paris' LIFE OF SIR HUMPHREY DAVY, there is a case exemplifying this very interesting phenomenon: Dr. Beddees having inferred that the inhalation of the nitrous oxide must be a specific for palsy, a patient was selected for experiment and placed under care of young Davy. Before administering the gas, young Davy inserted a small thermometer under the tongue of the patient to ascertain his temperature. The paralytic, deeply impressed by Dr. Beddees as to the certainty of success of the remedy, of which he knew nothing, no sooner had the thermometer in his mouth than he declared he felt better. Nothing more was done but the sick man was directed to return the next day. The same ceremony was repeated with the same result. At the end of a fortnight the man was dismissed, cured. No remedy of any kind had been used.

Another case illustrating the same peculiarity occurred in an English asylum where a female patient was laboring under a complaint which she imagined required the use of mercury. The physician in charge, perceiving that the supposed existence of the disease was an insane delusion, yet believing that a pretended endorsement of her opinion to a certain degree might be favorable to her recovery, prescribed bread pills, telling her they were mercurial pills. After a few days she became salivated and the pills were discontinued. On again prescribing them after salivation had subsided, she was a second time affected in the same manner; and this happened on the third recurrence to the bread pills. Cases similiar to these might be recited without end.

It is aside from the main topic, but we stop here a moment to point out how well the cases just mentioned indicate the power of mental suggestion. The physician who overlooks its influence is not up with his profession. Yet unreasonable, how atrocious in its effects, is the theory that mental suggestion can cure every ailment. Imagine trying to cure all cases of palsy by the application of a thermometer. Fancy a physician who claims to cure smallpox or consumption by mere conversation. And yet we all know how large is the class of persons now claiming to be "science" physicians, who claim ability to cure every ill to which the flesh is heir, through such moans.

Christian Science is a system of religious belief which claims that sickness is a diseased belief shown in the body, and that all ills can be cured by correcting this belief.

Such falsity! It is not either Christian or science. When you have the time, read the inimitable Mark Twain's description of this folderol.

WORTHY ACTION

Count that day lost, whose low descending sun views from thy hand no worthy action done. —Stanford.

There are many kinds of love, as
many kinds of light,
And every kind of love makes a
glory in the night.
There is love that stirs the heart,
and love that gives it rest,
But the love that leads life upward
is the noblest and best.
—Henry van Dyke.

"Fame is a vapor; popularity, an accident; riches take wings. Those who cheer today will curse tomorrow. Only one thing endures—character.—H. Greenly.

The dentists' aim is to imitate not improve on nature, they have what is known as "True Blend" teeth, they are of ten different shades, matched to a patient's original teeth or to his complexion, often inserting little wedges of darker stained porcelain, cutting ridges and erosions on the enamel coats, bleaching small patches, shadowing imitation cavities, setting teeth crooked in their plastic plates.

The kangaroo peculiar to Australia, having short fore legs and long powerful hind legs with which it leaps, has young that are smaller than mice at birth.

Few babies are as helpless as a baby kangaroo. He is born blind, is only an inch long and weighs but a fraction of an ounce. When he is able to get out in the world and take care of himself, he does not leave his mother for good, but returns to the cradle at the slightest sign of danger.

The Treatment of Malaria

Treatment very often has to be placed in the hands of laymen and in these circumstances quinine is the safest and for us the cheapest drug for general use in rural regions and labor camps. Quinine is still our most important drug because of its clinical effectiveness and almost safety coupled with the years' wide-spread knowledge of its use and dosage.

Atabrin is the drug of choice where expense need not be considered and where some form of supervision of treatment can be placed in effect.—Herbert C. Clark in Panama in S. M. A., August, 1940.

In the days of Joshua the Judge in Israel, when the Gileadites overtook the fugitive Ephraimites, they had a sure way to detect the alien enemy. They made them say one word—SHIBBOLETH—and the Ephraimite's tongue could never wrap the "h," so he would be discovered and thrown out. Hence the modern meaning of the word criterion, test, watchword. — Robert Tinsman in Printers' Ink (Weekly).

Today, if a shibboleth were developed to determine the most valuable men in a community, certainly the medical profession would become conspicuous in the presence of its members.—C. P. Loranz of the S. M. A.

My Job

By Larry Flint, of Greenville, Tenn.

My job—I learned it yesterday is neither bench nor store
But just to live each day a little straighter than before;
And just to greet my fellows with an honest sort of smile
With none of malice in it and a little less of guile.
My job is not to garner gold or count my gains at night

My task—I learn it better as my temples turn to gray—
Is but to battle hard to build a better life today.
To walk and talk and understand and hold my head up high
But not so far that I shall miss a brother passing by.
My task is not to seek my own in some unworthy claim
But to hunt the best that can be had without the taint of shame.

My duty—men have duty and if I would be a man
Then I must bow to duty—is to do the best I can.
In every way and every day till I grow big enough
To realize the best of men are diamonds in

the rough.
Time has a way of telling man its truth before he dies—
He profits most who serves the best—my job—there it lies.

Rt. 4, Memphis, Tenn. L. L. Minor,
August 19, 1940. Editor.

JEFFERSON COUNTY MEDICAL SOCIETY POSTGRADUATE SEMINAR SEPTEMBER 16-17

SEPTEMBER 16, 1940

Morning Session. 9:00 A.M.

1. Dr. John Albert Key, Professor of Clinical Orthopedic Surgery, Washington University School of Medicine, St. Louis, Missouri: "Treatment of Fractures of Both Bones of Forearm."

2. Dr. Marion Arthur Blankenhorn, Gordon and Helen Hughes Taylor Professor of Medicine, University of Cincinnati College of Medicine, Cincinnati, Ohio: "Atypical Pneumonia."

3. Dr. Francis Bayard Carter, Professor of Obstetrics and Gynecology, Duke University School of Medicine, Durham, North Carolina: "A Practical Routine for the Diagnosis of Vulval Lesions."

Afternoon Session. 2:00 P.M.

1. Dr. John Albert Key: "Sulfanilamide in the Treatment of Compound Fractures."

2. Dr. Marion Arthur Blankenhorn: "Vitamin Deficiencies Seen in Office Practice."

3. Dr. George Argale Harrop, Lecturer in Biology, Princeton University, Princeton, New Jersey: "The Diagnosis and Treatment of Disease of the Adrenal Glands."

Barbecue. Roebuck Springs — Courtesy of Jefferson County Medical Society — 6:30 P.M.

SEPTEMBER 17, 1940

Morning Session. 9:00 A.M.

1. Dr. George Argale Harrop.—"An Evaluation of the Present Status of the Use of Anterior Pituitary Hormones in Medicine."

2. Dr. Willis Dew Gatch, Dean and Professor of Surgery, Indiana University School of Medicine, Indianapolis, Indiana: "Management of Advanced Appendicitis in Childhood."

3. Dr. Francis Bayard Carter: "Separation of the Placenta."

Afternoon Session 2:00 P.M.

1. Dr. Willis Dew Gatch: "Graduate Training for Surgery."

2. Dr. William Wirt Waddell, Jr., Associate Professor of Pediatrics, University of Virginia Department of Medicine, Charlottesville, Virginia: "Critical Spontaneous Hypoglycemia in Childhood."

(No charge made for registration at Seminar.)

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES

— AMORY, 1:30, SEPTEMBER 10 —

Complications of Pregnancy.—Dr. R. H. Pegram,Jr., Tupelo.

Some Common Irregularities of the Menstrual Cycle.—Dr. R. H. Christian, Baldwyn.

Practical Feeding Problems in Infancy.—Dr. Hunter Scales, Jr., Starkville.

The Use and Abuse of Urinary Antiseptics.—Dr. Thomas Moore, Memphis, Tenn.

The Auxiliary will meet at the house of Mrs. W. N. Reid, where Dr. A. Street, of Vicksburg, will talk to the members.

Dr. A. Street, Vicksburg, will also be guest speaker at the Amory Hotel at the banquet which will follow the scientific meeting.

Woman's Auxiliary
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President	Mrs. E. C. Parker	Gulfport
President-elect	Mrs. W. K. Stowers	Natchez
First Vice-President	Mrs. Hugh H. Johnston	Vicksburg
Second Vice-President	Mrs. Augustus Street	Vicksburg
Third Vice-President	Mrs. W. H. Anderson	Booneville
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Research on History of Medicine	Mrs. G. D. Mancill	Indianola
Public Relations	Mrs. John B. Howell	Canton
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Honorary President	Mrs. Dan J. Williams	Gulfport
Memorial	Mrs. Henry Boswell	Sanatorium
Doctor's Day	Mrs. George Wallace	Gulfport
Exhibits	Mrs. John S. Harter	Sanatorium

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Albany; Third District, Mrs. T. H. Rayburn, Pontotoc; Fourth District, Mrs. Paul Brumby, Lexington; Fifth District, Mrs. H. E. Frizell, Vaughn; Sixth District, Mrs. R. L. Simmons, Meridian; Seventh District, Mrs. S. E. Bethea, Jr., Hattiesburg; Eighth District, Mrs. Lucien Gaudet, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point.

Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITIES CALENDAR

June—Hygeia.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Pre-Natal Care.
April—Cancer.
May—Alcohol.

FOUR-COUNTY AUXILIARY

In conjunction with an annual hospitality extended by Drs. R. B. Caldwell and Robert Christian, of Baldwyn, the members of the Four-County enjoyed a meeting at the Caldwell home in August. Presided over by the president, the meeting held a business session electing the following new officers: Mrs. M. McMillan, Tupelo, president; Mrs. A. J. Stacy, Tupelo, vice-president; Mrs. H. A. Stokes, Guntown, secretary-treasurer.

On the spacious lawns a delicious picnic was spread underneath the trees, and a happy season of informal talk graced the supper hour.

PRESENT DAY OPPORTUNITIES OF SERVICE FOR A DOCTOR'S WIFE*

MRS. CHARLES P. CORN
GREENVILLE, S. C.

In thinking of the present day opportunities for service for a doctor's wife, I am reminded of a remark which Dr. Rock Sleyster, President of the American Medical Association, made in his address to the A. M. A. Auxiliary in St. Louis, Missouri, last May. He said, "No single influence helps a doctor so much as his wife and his home. Here she may create a comfortable and congenial atmosphere, nourishing not only the physical needs of her physician husband and her family, but also their mental and spiritual requirements." So we agree with Dr. Sleyster that the first and foremost opportunity for service is in the home, sharing his life dedicated to the professional call. We realize she must be a person of idealism and altruistic aspirations, else she would not have married a doctor—for the practice of medicine grew out of a sympathy for humanity and a desire to relieve suffering and distress.

The doctor's wife is to her husband as Longfellow's Minnehaha to Hiawatha:

> "As unto the bow the cord is,
> So unto man is woman.
> Though she bends him, she obeys him,
> Though she draws him, yet she follows
> Useless each without the other."

The true doctor's wife, like the faithful physician, himself, will never be a slacker and her greatest opportunity for service, outside her home, is in working shoulder to shoulder with her husband in his altruistic efforts to eradicate disease and, in so doing, add happiness and prosperity to all those about her.

Secondly, one of the greatest privileges and opportunities for service comes through the Woman's Auxiliary to the doctor's wife, by creating and maintaining healthy contacts between the public and the medical profession. The auxiliaries are the doorways into lay groups. Women's organizations are knocking at the doorways and asking for guidance. The medical profession has an opportunity to enter and be the instructor, the guide. Communities and individuals are health-conscious and wish information. I heard some one say the other day that a girl from birth to the age of 14 needs her mother. From the ages of 14 to 40 she needs beauty—from 40 to 60 she needs personality and from 60 on she needs money. This is all true, and well she might have added that she needs good health always.

If asked to be chairman of a health program in your club, gladly accept this, for it is an opportunity to help plan a wise and sane program which suits your community. If every doctor's wife would sponsor one worth while authentic health program each year, our foundation would be a substantial one. Stress, or sponsor, if necessary, periodic health examinations for school children, or prenatal work, or the summer round-ups.

For the adults, too much stress cannot be made on health examinations for in this hurry scurry of life, they do not take time to have a physical examination. Statistics show that one out of every six applications for life insurance is declined or postponed. Get the disease before it gets you. One does not want to be like the man who—

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*President's address, delivered before the Southern Medical Auxiliary, Memphis, November, 1939.

"To get his wealth
He spent his health,
And then mid might and main
He turned around,
And spent his wealth
To get his health again."

With agitation for socialized medicine, it behooves us as doctors' wives to give watchful assistance in any plans to keep the profession secure. Familiarize yourself with the facts regarding socialized medicine so as to be able to converse with people on this subject when there is need for it. Let us keep abreast of the times and be worth while citizens to make the world a better place in which to live.

The Chairman of Legislation in the National Auxiliary has asked each doctor's wife to be a registered voter. We should assume this responsibility as citizens, because democracy can function only when all the citizens vote intelligently. At this time everything that enters into our lives, schools, homes, and jobs, comes under the jurisdiction of some governmental agency. What they do in the city hall, the state house, and the Capitol at Washington has a bearing on our plans for our children and ourselves. Banded together, our combined strength may be able to accomplish much. So I hope we shall feel that another of our opportunities for service is to be a registered citizen in 1940.

Another opportunity for service that we do not want to overlook is that we as women, and mothers of the race, can do much to forward peace in this world which is war-torn in so many countries. I quote from an editorial in "The Critic" in THE NEW STATESMAN AND NATION, London, which says: "Here is a thought-provoking question from deepest Africa. An English missionary in a chat with an old negro cannibal of the tribe of Niam-Niam, told him of the enormous number of victims of the World War. 'How could you eat so much human meat?' questioned the cannibal. 'We whites do not eat human beings,' answered the missionary. 'Well then, what did you kill them for?' asked the cannibal in great astonishment."

As members of the Southern Medical Auxiliary, our opportunities are again before us in continuing to uphold our two main objectives that we sponsor. These you are famaliar with, but I shall mention them briefly, The Research and Romance of Medicine, and The Jane Todd Crawford Memorial.

In the work of Research and Romance of Medicine, all good medical and historical papers given in the various auxiliaries of the 17 states comprising the Southern Medical Auxiliary are sent in each year and filed, making what is known as "The Southern Auxiliary Lending Library." Any member is privileged to borrow any of those articles for program material at any time. A list of the papers is kept on file of the ones on hand and the ones loaned out. Last year 147 papers and clippings were mailed out to 37 auxiliaries in 11 of the states. These have proved to be one of the most helpful features of our Southern Auxiliary work. Mrs. Leslie Moore, 4202 Beverly Drive, Dallas, Texas, is chairman of this work.

The Southern Medical Auxiliary has long been working toward a fitting memorial for the brave woman, Jane Todd Crawford, who in 1809 submitted to the first ovariotomy without an anesthetic. Mrs. Luther Boch, of Bellevue, Kentucky, is chairman of this work.

Lastly, we do not want to neglect our social part, for friendship is the basis on which our Auxiliary was founded. There is nothing sweeter than the communion of friend with friend. The joy that is created by the companionship of those of like ideals and ambitions creates an atmosphere that lingers in the heart like sweet perfume.

Edwin Markham has said:

"There is a destiny
That makes us brothers
None goes his way alone
All that we send into the lives of others
Comes back into our own."

So, we as doctors' wives find our opportunities for service in our present times, many and varied. May we feel that although individually we can accomplish little, we can pool our efforts in the interest of efficiency and that in the end our assets will outweigh our liabilities, and that although we have given much, we too, have received.

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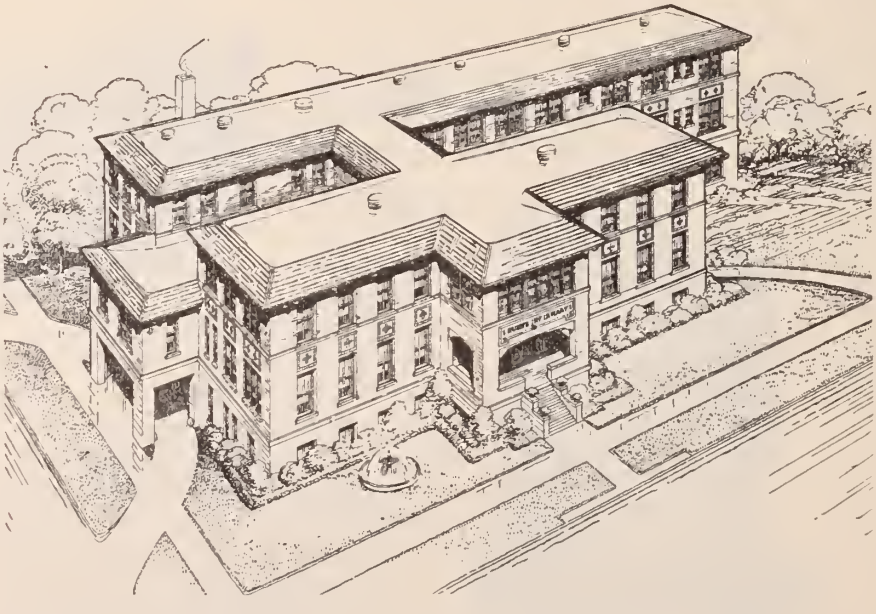

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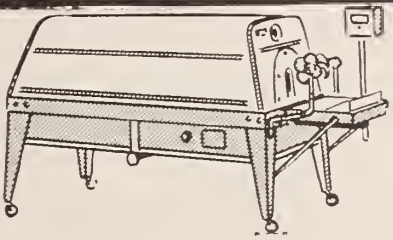

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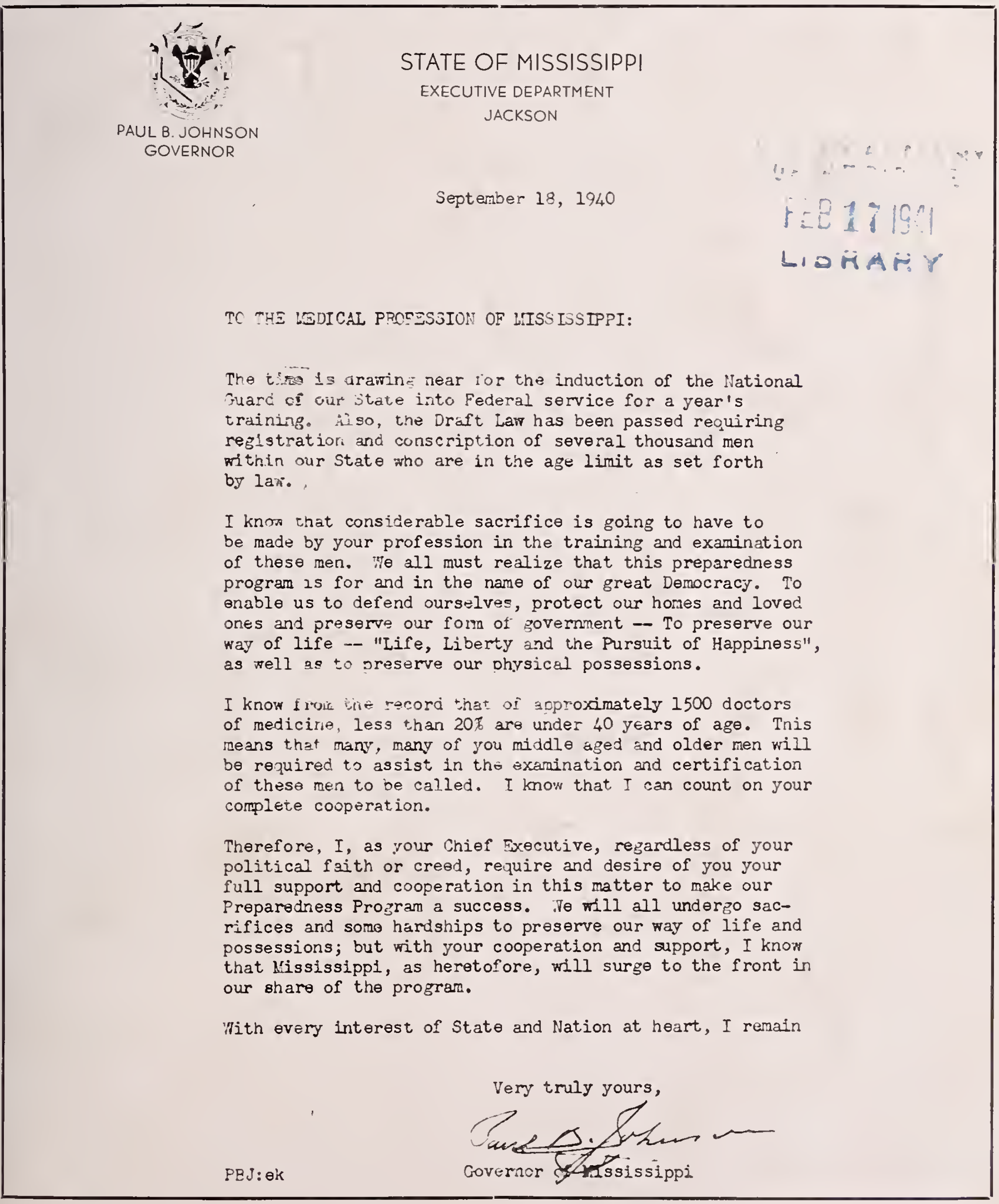

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I know from the record that of approximately 1500 doctors of medicine, less than 20% are under 40 years of age. This means that many, many of you middle aged and older men will be required to assist in the examination and certification of these men to be called. I know that I can count on your complete cooperation.

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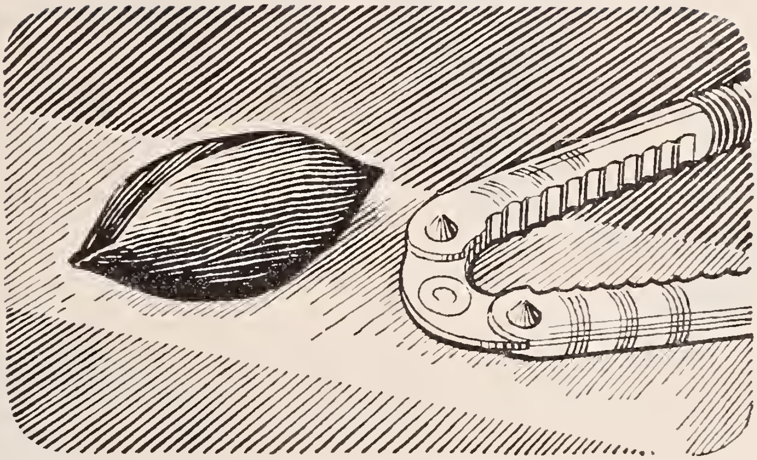

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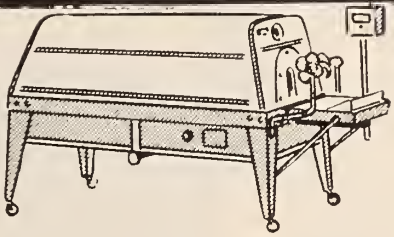

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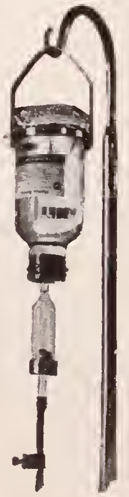

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The Value of Education in Tuberculosis Control*

WILLIAM D. HICKERSON, M.D.
SANATORIUM, MISS.

EDUCATION is generally recognized as the most important weapon in the control of tuberculosis. Its value is in proportion to the type and number of people it influences, and to the persistence with which it is used.

It is not my purpose to discuss the value of a general education in tuberculosis control, nor is it my intention to discuss the value of a general health condition. The importance of these factors in the control of any disease is apparent. It is my desire to stress the value of a better understanding on the part of our people, regarding the disease itself.

It is granted that the fate of tuberculosis control is closely bound to the public health program. We must admit, however, that it is possible; in fact we frequently see a tuberculosis control program lag within an otherwise efficient public health program. This is probably more true of tuberculosis than of any other preventable disease. Because of the nature of the disease itself, and because we have no specific prevention or cure, we are prone to stress more dramatic diseases, to the exclusion of this more dangerous killer.

In the control of no other disease is so much demanded of each individual comprising our whole population. It is not necessary that every man of the street have an intricate knowledge of tuberculosis, but it is necessary that every adult know that it is infectious and the simple rules for preventing the transmission of infection from the sick to the well. It is highly important that we as physicians have a thorough understanding of tuberculosis, and that we be willing to impart this information to our fellow man whenever the opportunity presents itself. Until this has been accomplished, there will remain defects in our control program, and we are shadow-boxing with the enemy instead of coming to grips with him.

Last year, Dr. George Gallup, director of the American Institute of Public Opinion, conducted a poll, to determine just how well people are educated regarding tuberculosis. It being true that education is one of the most important weapons in our control of this disease, the results of this poll give us an insight into the magnitude of the problem which lies ahead of us. Strange as it may seem, only 18% of those answering believed tuberculosis to be an infectious disease. Fifty-two per cent thought that it was inherited, and one in four did not believe it to be contagious. These results are amazing when one considers the efforts which have been put forth to educate people regarding this disease.

It is estimated that tuberculosis kills 180 persons in this country every day, and that seventy million are infected with the organism. Seven hundred thousand are seriously ill with this disease. Regardless of this terrible toll, progress has been made, for during the past fifty years the death rate has been lowered 80%, and during the past thirty years it has been cut in half. We know that the progress that has been made in its control has revolved around the open, or sputum positive, cases. Early diagnosis, modern treatment, hospitalization, better living conditions, improved sanitation, and other important factors have contributed to this decline. Yet we also know that even this degree of progress would have been impossible had the individual cases not been, to some degree, educated regarding the transmissibility and preventability of their disease. Tuberculosis will not be conquered permanently until we are able to control the spread of organisms from the sick to the well. Education of people regarding the disease itself is the greatest single factor that will enable us to reach this goal.

The fight against tuberculosis in the past has been slowly successful, but it is not yet won. The more successful we are, the more difficult the task becomes. Most of the gains that have been made in the past have been made in that more privileged group of the population who suffer the least. The smallest gains have been made among under-privileged people, who are hard to educate, and among whom tuberculosis is still rampant. The usual channels for providing public information for the control of any preventable disease are not freely open to this group. Under the emotional stimulus of an epidemic of a more dramatic illness, these people will temporarily protect themselves. This is not true of tuberculosis which lacks the drama to produce such a stimulus.

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THE PROBLEM IN MISSISSIPPI

The need for tuberculosis education is greater in Mississippi than in many other areas. We have a population of a little more than two million, and more than half of these are negroes. This large negro population contributes to our high illiteracy rate and to our low per capita income. In the face of these facts, the imparting of any health education is difficult. Many of these people are more concerned about the source of a livelihood than they are about the prevention of disease.

In 1938, eleven hundred and sixty-four persons died of tuberculosis in Mississippi. Three hundred and nine of these were white, and eight hundred and fifty-five were negroes. The provisional rate for 1939 is one thousand eighty-six, of whom two hundred and ninety-two are whites, and seven hundred and ninety-four are negroes.

The general plan for the control of tuberculosis in this state is as practical as any. Five important groups furnish us with modern methods of tuberculosis control, these methods being: (a) education, (b) diagnosis, (c) treatment, (d) follow-up care and rehabilitation.

The first group comprises the physicians of Mississippi who are becoming more and more interested in the control of this disease. They are much better equipped to make the diagnosis now than they have been in the past. They are more aware of the value of education in the control of tuberculosis. They know its tendency to spread in families. They have the confidence of their patients, and have a great opportunity to impart to these individuals the simple rules of prevention.

Second, our State Sanatorium is recognized as one of the best. Its staff is well equipped to treat tuberculosis and to educate patients regarding control measures. For more than twenty years, hundreds of patients have been returned to their homes each year, cured, educated, and anxious to transmit their knowledge to others.

Third, our State Board of Health for many years has played an important role in the control of tuberculosis. Under the direction of the family physician, well-trained public health nurses are making thousands of home visits yearly, educating, advising and encouraging these unfortunate people. The State Board of Health is examining an increasing number of sputums for tubercle bacilli—the most important of all examinations in the control of tuberculosis. In the prevention of other diseases, and in the building of healthy young adults, it is insuring against the development of tuberculosis.

Fourth, the Mississippi Tuberculosis Association as a unit is one of the most valuable tuberculosis educators. It distributes thousands of pieces of educational literature yearly. Only recently, the latest copy of DIAGNOSIS STANDARDS was mailed by this organization to every physician in Mississippi. It renders invaluable assistance in furnishing the x-ray films that are used in our diagnostic chest clinics, thus enabling us to make routine x-ray films on all patients examined.

Fifth, diagnostic chest clinics are playing an important part in the control of tuberculosis in Mississippi. Such clinics have long been recognized as an essential in any well-rounded program.

As one vitally interested in the control of tuberculosis, I recognize the valuable service being rendered by these groups. As a tuberculosis clinician, however, I should like to dwell more fully on Mississippi's diagnostic field clinics. These clinics were begun in Mississippi six years ago. Their purpose is to render a diagnostic and consultant service to the physicians. Their principle objectives are: education and early diagnosis. We have stressed education first, because it has been shown time and time again that early diagnosis campaigns will fail in the absence of education. During these six years, more than thirty thousand contacts and suspicious cases have been referred for examination. Each has been instructed in the simple rules of prevention and care. In the examination of these thousands of individuals, we have witnessed every conceivable attitude towards tuberculosis. All of the old fears, superstitions, and misunderstandings have been apparent. Although hundreds of their fellow citizens are being restored to health yearly, they still fear it more than any other disease. It is thought by them to be inherited, that it follows in the wake of some other disease, or that it is contracted from exposure to the elements. Most of them believe that to be afflicted with tuberculosis, one must be emaciated and ill. Many of them still believe that the eating of raw eggs and the exposure of their bodies to direct sunlight offers them the greatest hope for recovery. Most of them have seemed devoid of the simple fundamental knowledge that is necessary to prevent the spread of their disease to others.

These people are a fair sample of the group that is furnishing most of our new cases of tuberculosis today. Their attitude is a measure of how our educational methods are succeeding. They have apparently been almost untouched by the usual methods of education. We have tried, and we believe we have succeeded in educating these clinic patients regarding tuberculosis. We have taken the time to explain to individuals and to family groups the simple rules for prevention and cure. This is, of course, a tedious process, but we feel that this by-word-of-mouth method is the best way to impart this information. We see definite signs that there is a better understanding on the part of people regarding tuberculosis.

From the beginning, we have stressed the use of the tuberculin test as a diagnostic procedure. We are careful to explain beforehand that a positive reaction only indicates infection, and that further examination is necessary to determine the presence or absence of disease. If this test is not explained in advance, a positive reaction is liable to produce extreme fear. We have seen children with positive reactions shunned by their classmates, and in some cases removed from school by the authorities. These children were normal and as healthy in appearance as any in their community. The x-ray may or may not have shown evidence of their infection. On some occasions, these healthy children have been removed from school and put to bed when this was not indicated. Such a procedure has endangered their whole future lives, interfered with their schooling, and actually hindered tuberculosis control. The attitude towards this test is simply given as an example of the lack of education regarding tuberculosis on the part of our people.

Suggested Remedies

The control of tuberculosis is more intricate than the control of any other infectious disease. In the control of such diseases as typhoid fever, smallpox, diphtheria, rabies, etc., we are aided by specifics which give us a mathematical assurance of success. We can only vaccinate against tuberculosis with education. Our usual methods of educating the public regarding diseases can easily be enumerated. Newspaper publicity, the radio, speakers, printed matter, posters, exhibits and motion pictures, are methods of education which have been in use in Mississippi for years. These methods are reliable, and they have proved to be effective, but they have failed to reach that group of our population which is so badly in need of information, the group more sorely afflicted with the disease. A concrete example of where these methods lose their effectiveness can be given.

Some few years ago, the city of Detroit set as its goal the tuberculin testing of the whole population, and the x-raying of all positive reactors. In order to acquaint people with the plans, the most intensive health educational campaign was used that has ever been attempted in this country. For a period of twelve days the city newspapers gave their front pages, and the radio stations gave as much time as was desired. Speakers were pressed into service, pamphlets and posters were printed and distributed throughout the city. From every angle, tuberculosis was literally fed to the people of Detroit, morning, noon and night. It was stressed that every individual should go to his physician, or to a clinic for the tuberculin test and x-ray, if found necessary. An extra two hundred thousand dollars was appropriated to pay the cost for those unable to pay. The pioneers in this work felt that such a campaign could not fail. They even had visions of making Detroit the first city free from tuberculosis. To their dismay, they found that only one per cent of the people from those poverty-stricken sections of the city where tuberculosis raged, went for the test. Their intensive campaign had failed. Later, well-trained public health nurses went into these same districts, and talked personally to these people, urging, explaining, and educating. As a result of this direct contact, forty per cent of these same people came for the test. This one example proves to us that it takes more than scare headlines, and death bellowing broadcasts to arouse people and educate them regarding tuberculosis.

You have heard it said that the development of a case of tuberculosis in a family group is the best educator. This is true, but how many lives could be saved if this process were reversed and the families be educated before the development of this disease. Some few years ago, we were anxious to examine the teachers in one of our larger city schools. These examinations were indicated because of the large number of high school students in this city who were developing tuberculosis, and who gave no history of tuberculosis within their families. We were unable to do this at first, because of a lack of interest on the part of school authorities, who would not demand that the teachers be examined. Some time later a brother of one of the school officials developed tuberculosis. This one family case educated the official to the extent that he requested the examination for himself and all of his teachers. During this examination, we uncovered a far advanced case who had been the source of infection for so many of these students.

There are no new methods of disseminating information regarding tuberculosis. First, we must modernize our known methods, and keep them constantly and with sustained effort before our people. It is my belief that the most effective of all methods is to educate cases, contacts, and tuberculous families by private conference. We must begin by removing the obsessing fear that always enshrouds them, and then in a humane way, instruct them in the simple fundamentals of prevention. We should point out to every tuberculous individual that he has two objectives: first, to get well himself; and second, to prevent the spread of his disease to others. We should be careful to explain to the parents in tuberculous families, that their children are more apt to develop tuberculosis in later life than are the children in non-tuberculous families. It is necessary for us then to outline rules for healthful living in these families in an attempt to ward off the development of disease in later life. We should be careful to explain that tuberculosis in its early stages is one of the easiest of diseases to cure, and that any family member developing the slightest symptom should go to his physician, or to a clinic, immediately for examination. In simple terms, we should get it firmly fixed in their minds that every case of tuberculosis comes from another, and that the tuberculous case in that family must be strictly and permanently isolated until he is no longer a source of infection. It is well to explain to them that if the patient is trained to cover his nose and mouth whenever he coughs, and the sputum that he raises be immediately destroyed, that it will be impossible for him to spread his disease to others.

If every physician and every health worker in Mississippi would give such simple instructions whenever the opportunity presented itself, it would not be long before we had a tuberculous conscious and educated populace. This greatest killer of our young should be constantly on our minds, and we should keep it perpetually before our clientele. Let us never stress the more dramatic diseases to the exclusion of tuberculosis. This is a never-ending job, because new persons are constantly being added to our population. This method of teaching has brought results in our field clinics. and it will bring results for the population as a whole. Their only defense is to avoid dangerous infections.

It would seem, then, that the means to achieve our purpose is education. In the words of Dr. Kendall Emerson, "In lieu of other specific measures against tuberculosis, education is our vaccine, our immunizing agent, and our sovereign prophylactic procedure."

DISCUSSION

DR. W. A. TOOMER (Tupelo): There was a wonderful message in this paper and could have been prepared only by someone who has had considerable experience in this work. Education of the people, of course, is the chief factor in tuberculosis control—the foundation on which control is based.

The question arises as to what methods are we going to use to get the correct information, in the right way, over to the people who need it most. First, I think it should be taught in the public schools to small children. Children can be taught easily. In adults, it is difficult because they have fixed ideas about disease as well as other things.

The very best way to get people interested in a control program is to do more tuberculosis work among the people in whom we are trying to arouse an interest; do more tuberculin testing, make more x-ray pictures and more examinations. It is more impressive when this kind of work is done. We should actively treat every case in every community and give people to understand that there is a treatment that may benefit even the advanced cases of tuberculosis.

Control of this disease is largely a public health problem because the public health worker comes in contact with the open cases and their contacts and can induce these people to have periodical examinations. People who are contacts and who are able to have frequent x-rays made get careless and will not have it done themselves unless someone keeps the proposition constantly before them. The health department can best do this. Well-trained nurses are the greatest asset we have in a program of this kind. They come in actual contact with the people, the open cases, and the contacts themselves, and can most thoroughly secure their co-operation.

I think too much has been said about how thoroughly tuberculosis is being controlled. We know the death rate has been cut and people have been taught how to live with the disease, but how about the increased number of carriers? Improved methods have been discovered due to surgery and other therapy which enables people with tuberculosis to live on and on. We know that the great majority of these people are carriers of the disease; so we may be headed for a rather serious problem because of these carriers.

There are certain symptoms that the general public should be familiar with. They should be told that pleurisy is to be regarded as tuberculosis until proved otherwise. A young man recently came into my office and stated that he had an attact of pleurisy several months ago, but that he had an x-ray and it was negative; but when I saw him, the x-ray showed definite evidence of active tuberculosis. Only about 20% of all cases of recent pleurisy can be shown by x-ray.

Recently, in the city of Tupelo, the school board ordered all teachers to have x-ray pictures made of their chests. This service was paid for by the city. There is always a reason for a community or local government becoming interested enough to have such examinations made. In this case a colored janitress in the high school was found to have active, advanced tuberculosis. She had been employed in this capacity for several years. Upon investigation, it was found that she had had a chronic cough for two or three years; so an interest was aroused immediately and about this time it was learned that a recent superintendent of the city schools had an incurable tuberculosis. Something of this nature is usually required to arouse sufficient interest to have the necessary examinations made.

I have just finished making about forty of these pictures and in this group, I found one open, active, case of pulmonary tuberculosis in a young lady who teaches the second grade This means that all children in the teacher's room have been exposed to tuberculosis.

Hospitals and clinics should be located as close as possible to the people thereby making them tuberculosis conscious. What we need in Mississippi is more beds for tuberculosis patients, more tuberculosis organizations in the counties, and a general awakening of our political leaders as to our needs in the control of this disease.

DR. R. E. SCHWARTZ (Hattiesburg): I wish to commend Dr. Hickerson for the manner in which he has handled this timely subject. For several years we have realized that our "Early Diagnosis of Tuberculosis" campaigns have fallen short and by no means have solved the problem of controlling the disease. The staff of our State Sanatorium is conducting diagnostic clinics in various communities over the state. Due to the splendid co-operation of local doctors they are rendering an invaluable service. The establishment of chest clinics in connection with the regular county health units is being tried successfully in some instances.

Tuberculosis is primarily a family disease because of the peculiarities of its transmission. The close and repeated contact most suitable for its spread is found in the home. When young people develop tuberculosis the source of infection in most cases is traced to some member of the family or a household employee such as a maid, cook or nurse. Occasionally a school teacher may be the focus from which bacilli are spread in the schoolroom.

In my opinion the tuberculin test offers the surest means of reaching the majority of people in our health education program; therefore, the teachers must be trained in college courses to conduct health programs and to know facts concerning this particular disease and the meaning of the test as well as what it is expected to accomplish. In contacting hundreds of public school teachers I find that they do not know there are two types of tuberculosis—adult and childhood, neither can they distinguish between the two, both of which are basic facts in dealing with the disease. Education here is imperative. It is through the teacher's influence that we will eliminate the misinterpretations of these tests.

This work through the public school program carries information directly into the home, thus the clinician gets the opportunity to explain the disease to the entire family and can more easily locate tuberculosis carriers.

In Forest County the health unit has been very active in this particular field of health. All contact cases are tested and the positive reactors are examined in the clinic held once a week for that purpose. The annual report shows that 418 individuals were given the test in 1939. The drive against venereal diseases has been given so much impetus the past few years that most families will not employ servants until they have been tested for syphilis. Why not have the same attitude against tuberculosis? It requires very little more time for the clinician to make the tuberculin test at the same time. In that manner a large number of cases would be reached.

For the underprivileged group in which we have 8 deaths out of 11 in this state, better housing programs will be a great benefit both in improving daily living and offering better isolation facilities.

Emphasis should be placed on the pole described by Dr. Hickerson listing only 18% answering that they believed tuberculosis to be an infectious disease, 52% that it is inherited and only one in four giving a vivid picture of the enormous problem that can only be solved by the united forces—the homes, schools, public health units and local physicians in each community.

DR W. D. HICKERSON (closing discussion): I have nothing further to add except to express my appreciation to Drs. Toomer and Schwartz for their discussion. It is often said that the discussions that are brought up are more valuable than the paper itself. Maybe I am a little over-enthusiastic regarding the control of tuberculosis, because it is really a subject that is close to my heart, and I think much more can be done about it than is being done.

To me the early discovery of a case of tuberculosis, putting the patient on routine treatment, and seeing him recover before he ever becomes a source of danger to his family and friends, affords as much thrill as a surgeon gets in operating on an acute appendix before it has ruptured.

Now I want to take this opportunity to express to the physicians of Mississippi my deepest appreciation for the wonderful co-operation that you have given our field clinics during the past six years. I feel they have been successful. We have not tried to get x-rays from every one in the state, but we have tried to make every examination we have made mean something to each individual and we have tried to send him home realizing what he can do to prevent the spread of tuberculosis. I thank you.

The Use and Abuse of Urinary Antiseptics*

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URINARY INFECTIONS are common to both sexes and at any age. The pediatrician is frequently called upon to treat pyelitis in infancy and in aged men pyuria is commonly associated with prostatic obstruction and with cystocele with retention of urine in elderly women. In the practice of general surgery, urinary infections are a frequent complication and the obstetrician may deal with the complication both before and after childbirth. Pus in the urine may have its origin from an infection involving any point from the renal cortex to the urethral meatus. Although appropriate treatment precludes a knowledge of the source of pyuria, it is beyond the scope of this paper to deal with the diagnosis of urinary infection, and the means used in determining the origin. There are a few points, however, concerning the collection of urine which are of practical interest. In the male it is a good practice to collect a two-glass specimen; if pus is found only in the first glass it would indicate that its source is from below the vesical neck; if pus is present in both glasses it may be assumed that the infection exists in the bladder or perhaps in the upper urinary tract. In females if a voided specimen is negative, it may be depended upon that the urine is free of pus, but if the specimen contains pus a catheterized specimen should then be examined to be sure that the pus cells did not have their origin from the vulva or vaginal introitus. In the routine examination of a specimen the reaction should be tested. In nearly all urinary infections in which stasis is a factor, the reaction will be found alkaline. This, of course, is due to decomposition with the production of ammonia and when persistently found, stasis should be strongly suspected. Occasionally a specimen will be teeming with bacteria and very little or no pus may be found; and the converse is occasionally true, the urine may be loaded with pus cells but no bacteria can be seen in stained smears. An effort should always be made to identify if possible the nature of the infection. Much information can be gained from a Gram's stain of the sediment. Although bacterial studies by cultural methods are highly important and yield almost indispensable information, it is surprising how often the Gram's stain will suffice in giving one a practical working knowledge of the character of the infection. In urinary infections which have proved stubborn, or persist in spite of the usual measures, a possible tuberculous infection must always be kept in mind. It is surprising how often urinary tuberculosis is overlooked simply because it was not thought of or else the acid-fast bacilli were not sought. The staining of the urinary sediment for tubercle bacilli is no more complicated than the search for these organisms in the sputum. When this type of infection is strongly suspected, it may be necessary, however, to search specimens day after day for a week or more before they will be discovered. If all specimens are negative a guinea pig inoculation would be in order. In all pyurias it is highly important to determine whether a bacillary infection exists or a coccal one, and if the latter it would be of practical interest to know whether streptococci, staphylococci, or gonococci are the offending organism. The Gram's stain of the urinary sediment will yield this information.

Given a patient in which the diagnosis of a urinary infection has been established, the question arises as to what measures can be used in its control. If the history of the case reveals that the urinary infection has been present over a long period, perhaps many weeks or months, treatment should be deferred until after a most careful and thorough urologic investigation has been made. If symptoms indicate, however, that the infection is acute, or of brief duration, the patient should be given the benefit of a good urinary antiseptic, perhaps combined with local treatment and in a high percentage of cases, the infection will promptly disappear. Those which do not respond to this conservative management should be thoroughly investigated in order that more appropriate treatment can be prescribed. At this point mention will be made of the more common urinary antiseptics with a discussion of their merits.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society at Amory, Miss., September 10, 1940.

SANDALWOOD OIL—First used by the Chinese, it is one of the oldest of the urinary antiseptics and at one time was regarded as highly specific for gonorrheal urethritis. Like other balsamics such as copaiba, however, it has very little antiseptic value but may exert a soothing effect on the inflamed mucous membrane of the genito-urinary tract. It is still used for this purpose but has lost most of its popularity as a urinary antiseptic.

METHYLENE BLUE—In 1891 Einhorn proclaimed this substance as a useful urinary antiseptic and efficient whether given by mouth or rectum. It is one of the diphenylamine dyes, the group also including gentian violet, acriflavine, and mercurochrome. It may be irritating to both the digestive and urinary tracts and its value as a urinary antiseptic has been disappointing. Recently, however, it has been used extensively in conjunction with sulfanilamide therapy, either as a means of preventing some of the disagreeable symptoms, or as an antidote for methemoglobinemia, a not uncommon complication in sulfanilamide therapy. Methylene blue may be given for this purpose either in tablet form or intravenously.

NEUTRAL ACRIFLAVINE—This drug also may be given in tablet form or intravenously and is more effective with an alkaline urine. It exerts an uncertain antiseptic effect in the bacillary infections but is less valuable in the treatment of coccal infections including the gonococcus. It has been used with some success, however, when given in a 2 per cent solution intravenously at intervals of forty-eight hours in acute gonorrhea or its complications. When taken by mouth it may be irritating to the gastro-intestinal tract. It is of more value as an agent for irrigations either of the urethra or bladder in weak concentration, usually 1:5000 solutions being employed for this purpose.

PYRIDIUM, SERENIUM, AND MALLOPHANE—These drugs are forms of the azo dyes and when first introduced some years ago were rated highly as efficient urinary antiseptics. They are supposed to be effective either in an acid or an alkaline urine and too have some sedative effect on the bladder. In my experience, I must frankly state that these drugs have been disappointing for the purposes for which they were intended. They have been advertised to the profession extensively, often by two-page ads in colors in some of our leading medical journals and have enjoyed a certain degree of popularity. I have found that my experience coincides with that of many other urologists in that they have been decidedly over-rated as efficient urinary antiseptics. Their action may be considered to be rather more bacteriostatic than bactericidal. They also have the disadvantage of being expensive and on this account their use is often prohibitive in indigent patients.

CAPROKOL OR HEXYLRESORCINOL—This is another drug which has been over-rated although widely heralded as the long-sought panacea. It may have a sedative action in the urinary tract like the balsamics but its value as an antiseptic has been disappointing, and in my experience it is a drug which is seldom if ever prescribed. Careful clinical data on its antiseptic value has proved that it exerts practically no bactericidal effects in any type of urinary infection. It also has the additional disadvantage of being rather expensive.

NEOARSPHENAMINE—For many years neoarsphenamine has been employed as an antiseptic in staphylococcal infections, particularly when the kidneys are involved. The drug has practically no antiseptic effect in streptococcal or bacillary infections. It is given intravenously, usually employing about half the dosage used in the treatment of lues. When used as a urinary antiseptic, there is a greater tendency for reactions to occur than when used in the treatment of syphilis, and great care must be given in its administration for this purpose. The initial dose should not exceed 0.3 gram and seldom should the dose exceed 0.45 gram. It is usually given at intervals of five days and marked improvement may often be noted after the first injection. Acidification of the urine may enhance the efficacy of the drug.

METHENAMINE, UROTROPIN OR URITONE—It has been our custom to refer to this substance as methenamine as it costs the patient far less than genuine urotropin. Of course, both are identically the same chemically, urotropin being a brand of methenamine put out by a certain manufacturer and costing the patient several times as much as methenamine. For many years it has been more widely used as a urinary antiseptic than any other substance and is still one of the most dependable agents if properly employed. Its efficacy is dependent upon proper acidification of the urine which will bring about the liberation of formaldehyde. This does not occur unless the pH of the urine is at least 5.5 or below as proved by the researches of Helmholz. Therefore a good urinary acidifier should always be prescribed in combination with methenamine. Sodium acid phosphate has been used for a long period for this purpose but it has been found that ammonium chloride is more efficient. The latter drug is best prescribed in an enteric coated tablet. If the urine is alkaline, methenamine will exert no urinary antiseptic effect and if alkalis are prescribed in order to alleviate the symptoms of frequency and burning, they will neutralize the antiseptic value of methenamine. The symptoms of vesical irritation following the use of the drug may be attributed to the presence of formaldehyde in the urine, and unless these symptoms become pronounced, it is well to instruct the patient to tolerate them for a day or so if possible before reducing the dosage or prescribing alkalis in order to neutralize the acidity. Methenamine is probably more effective in combatting the bacillary infections than other organisms, especially those of the coccal group. In acute or severe infections involving the upper urinary tract, it may be given once or twice daily intravenously in doses of two grams. When administered in this way it should also be combined with an efficient acidifier.

THE KETOGENIC DIET—A few years ago Clark and Barborka observed that a specimen of urine containing the ketone bodies from a diabetic patient remained sterile on standing over-night in a laboratory, whereas other specimens became cloudy from the propagation of bacteria. Following up this clue they ascertained that an induced ketonuria was of definite value in the treatment of urinary infections. It was further found that this antiseptic property was attributable to beta-hydroxybutric acid. For some time the ketogenic diet enjoyed popularity in the treatment of urinary infections with particular reference to bacillary infections. It has the disadvantage, however, of being disagreeable because of the high fat content, often producing nausea and vomiting, and in many instances it was necessary to hospitalize the patient in order to supervise the diet closely. Later it was found that a starvation ketosis could be induced with less disagreeable effects, and the high fat ketogenic diet was to some extent less favored. Later an effort was made to find an acid comparable to beta-hydroxybutyric acid which would exert a similar antiseptic effect. Rosenheim discovered such an acid in the form of mandelic acid. The drug is usually prescribed in conjunction with an acidifier such as ammonium chloride and is available in both tablet and liquid form. The enteric coated tablets in my experience are preferred and have been referred to as "the ketogenic diet in tablet form." It exerts its best effect in bacillary infections with particular reference to the colon bacillus of the Escherichia type. B. coli of the Aerobacter type are much more resistant and coccal infections respond rather poorly to its use. It may exert an irritating effect on the renal epithelium characterized by the appearance of blood cells or casts in the urine. In this event the drug should be discontinued. Like methenamine it requires careful observation of the pH of the urine to obtain its best effects, as it is practically inert unless the pH is 5.5 or below. Incidentally it might be mentioned here that determination of the hydrogen ion concentration or pH of the urine has been rendered fairly simple by a small inexpensive outfit which makes the determination about as simple as testing the urine for albumin. Test papers and color standards are also available for the same purpose and some such device should be in the laboratory of all physicians who deal with the treatment of urinary infections. In prescribing mandelic acid better results would be obtained if the fluid intake is limited, or restricted to not more than 1000 or 1200 cc. in a twenty-four-hour period, in order to insure a sufficient concentration of the drug for antiseptic effect. It is also desirable that the patient be observed for the appearance of the symptoms of acidosis.

SULFANILAMIDE, SULFAPYRIDINE, SULFATHIAZOLE, AND NEOPRONTOSIL—The extravagant claims which have usually heralded the appearance of other urinary antiseptics have caused a skeptical attitude toward sulfanilamide and its related compounds for the treatment of urinary infections. However, there is now abundant evidence that sulfanilamide and several other newly developed, closely related chemicals, comprise a group of powerful chemotherapeutic agents capable of influencing urogenital infections to a far greater degree than any antiseptic heretofore employed but they fall short of being a panacea. Many patients are highly susceptible to their toxic effects, which limits their usefulness. Like all other urinary antiseptics they usually fail in the presence of obstructive lesions such as those associated with stasis and also generalized cortical infection of the kidneys. These substances have the unique property of appearing in the prostatic secretion and are therefore useful in the treatment of simple or chronic nonspecific prostatitis. Bacillary infections of the urinary tract are somewhat more amenable to treatment than coccal infections and the drugs act better in an alkaline than in an acid medium. They should always be used with caution because of their toxic effect especially on the blood and blood-forming organs, and treatment should be discontinued at once if toxic symptoms arise. Cook has recently reported that in a group of one hundred consecutive patients with urinary infections, approximately 5 per cent found it necessary to discontinue sulfanilamide because of disagreeable symptoms. In another group of one hundred consecutive cases only 3 per cent were unable to take neoprontosil which seems to be equally effective as a urinary antiseptic. It is prescribed in tablet form about on the same schedule as sulfanilamide; that is, sixty to eighty grains daily for the first two days with gradual reduction of the dosage to thirty to forty grains for a total period of ten days if the drug is well tolerated. Sulfapyridine has been found to be a very effective antiseptic in the urinary tract with particular reference to the gonococcus and hemolytic streptococcus. More recently sulfathiazole has become available and has almost a specific effect for staphylococcal infections. It has been generally recognized that staphylococcal infections are particularly resistant to treatment but a number of cases have been recently reported, even those associated with a blood stream infection with this organism, which have responded almost in a dramatic way to the administration of sulfathiazole. The usual dosage of this drug is four grams daily for the first two or three days, followed by two grams daily for the remainder of the course of seven to ten days. Like neoprontosil it is not attended with the degree of disagreeable symptoms accompanying sulfanilamide therapy. In prescribing sulfapyridine a heavy excretion of its crystals may occur in the urine to a degree obstructing the ureters. Several cases of complete anuria have been reported in which investigation revealed the ureter occluded by these crystals. Should this occur, ureteral catheters should be passed and irrigation with warm saline carried out. It rapidly dissolves the crystals and restores adequate urinary drainage to the bladder. In patients who are acutely ill and especially if there is much nausea or vomiting, these drugs may be given in suspension rectally with good results. Under similar circumstances we have employed in several cases sulfanilamide in a concentration of eight-tenths of 1 per cent, giving 300cc. subcutaneously every six hours with gratifying effects.

Indications—It has been found worth while to employ a good urinary antiseptic for prophylactic reasons in cases where instrumentation is necessary. It is generally known that the dilatation of a tight urethral stricture may be followed soon afterward by a severe rigor and hyperpyrexia. The so-called urethral fever, or urethral chill, may also follow transurethral manipulation, cystoscopy, or even simple catheterization. Such untoward reactions seldom occur if the patient is given an efficient urinary antiseptic for a period of forty-eight hours prior to the passage of an instrument. We have also used this type of prophylaxis preliminary to the surgical removal of stones from the kidney or ureter, and have noted that the convalescence is smoother and that the incisions heal more kindly. Practically all other indications for the use of urinary antiseptics whether given per orem, intravenously, rectally, subcutaneously, might be placed under the head of acute urinary infections, regardless of their renal, ureteral, vesical, prostatic, or urethral origin. With a knowledge of the type of infection present in a given case, it is fairly simple to choose from our armamentarium the antiseptic best adapted to that particular organism. Drugs selected in this way, depending upon the bacteriologic findings in the case, usually bring about a very prompt response provided the patient can tolerate their administration. If very definite improvement has not occurred within a reasonable time, such as one to two weeks of carefully directed treatment, certainly then the patient should be given the benefit of a urologic investigation, the main purpose of which would be to exclude some obstructive or surgical lesion. It goes without saying that longstanding pyurias or cases which have run the gamut of urinary antiseptic treatment over periods of weeks, months, or years, should forthwith be subjected to a thorough urologic survey and in the majority of such cases the cause of failure is soon revealed. To depend upon the oral administration of these valuable drugs in chronic urinary infections is an abuse of them, which is detrimental not only to the patient but to the physician's own reputation. It would be just as reasonable to treat a tumor of the breast by giving potassium iodide or to treat an ununited fracture of the femur with calcium gluconate wafers.

SUMMARY AND CONCLUSION

Pyuria may be due to an infectious process involving any portion of the urinary tract from the renal cortex to the urethral meatus. In the male it is of practical interest to know if the pus is present in a two-glass test. In the female the finding of pus in a voided specimen should always be checked by the examination of a catheterized specimen before attaching any significance to the finding. In chronic pyuria the possibility of urinary tuberculosis should always receive consideration. The more commonly employed urinary antiseptics have been discussed along with their merits and demerits. In the discussion of this group of drugs, mandelic acid, sulfanilamide and its related chemotherapeutic agents, sulfapyridine, sulfathiazole, and neoprontosil, are considered at the present time the most efficient urinary antiseptics so far developed. The indications for their use are both prophylactic and corrective. The appropriate drug in any case requires at least a working knowledge of the nature of the infection at hand which may be gained by a study of the urinary sediment stained by the Gram's method. The misuse and abuse of urinary antiseptics centers largely around their administration in chronic pyurias accompanying surgical lesions, such as renal calculi, hydronephrosis, renal tuberculosis, hydro-ureters, ureteroceles, benign hypertrophy of the prostate with residual urine, vesical diverticula, vesical neoplasms, vesical stones, urethral strictures, chronic prostatic abscesses, etc. It is emphasized that conservative medical treatment is indicated in acute pyurias but that those which have not responded in a reasonable time and also in all instances of chronic pyurias a careful urologic study should be carried out and only then may appropriate treatment be determined.

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Intercepting Cancer in the Female Reproductive System*

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BY THE TITLE "Intercepting Cancer in the Female Reproductive System," we mean the prevention and the early recognition of cancer as applied to the female reproductive system.

The female reproductive organs constitute favorable ground for the development of cancer by reason of the variety of highly specialized epithelial tissues present, by reason of the inherent profound physiological changes present and by reason of the trauma incident to bearing children.

Approximately two-thirds of the eighty to ninety thousand women who die each year of cancer in the United States have cancer of some part of the reproductive system. Most of these women die during or soon after the reproductive period; that is, in the prime of life and in the period of greatest usefulness to their families.

Many millions are today being spent in cancer research. Until cancer is more fully understood we must use the means already at hand in prevention and early treatment. These means are not inconsiderable.

Our ability to recognize this disease in the early stages is roughly proportional to the accessibility of the affected part. For example, the stomach is one of the most common sites for cancer, yet the stomach is relatively inaccessible, and routine x-rays, necessary in early diagnosis here, are as yet impractical.

The female reproductive organs, however, are relatively accessible to physical examination with the equipment found in almost every doctor's office. The x-ray is not routinely needed; simple inspection and palpation are all that is necessary to recognize the suspicious lesion, and biopsy can then confirm or disprove.

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As to prevention, we can do much here as compared to certain other regions of the body. Especially is this true of carcinoma of the uterine cervix, ninety-five per cent of which cases develop in those who have been pregnant. The noted gynecologist, Gellhorn, stated in 1934 that in women who have had their children only by Caesarean section, not a single case of cancer of the cervix has thus far been reported.

These facts go to prove that the most prolific source of cancer here is the usually unavoidable lacerations of the cervix resulting from childbirth. While any chronic irritation predisposes to cancer, those resulting from the passage of a fetus through the cervix particularly predispose. Every physician who delivers a mother participates in making a potential cancer victim and thus has a very grave responsibility to follow up the case and eradicate any predisposing factors.

The practice of making immediate repairs and of following up our cases at the end of about two months for the purpose of clearing up any residual irritations (usually by cautery) must become more universal. The patient and the doctor are here often mutually careless about this follow-up examination which is almost as important to the mother as the actual delivery of the child.

Early recognition of cancer is the only recognition of cancer worth while as a means of saving life. What are the symptoms of early cancer? The answer is: *There are none.* Pain which the layman usually associates with cancer, is most unfortunately not an early symptom. Abnormal discharges, tumors and loss of weight usually indicate at least a moderately advanced lesion. A serous, or serosanguinous discharge and intermenstrual or postmenstrual "spotting" are the earliest clinical manifestations of carcinoma.

The Mayo Clinic states that ninety per cent of the cases of cancer of the cervix that come to their attention are incurable. Carelessness. timidity, ignorance of symptoms, and fear on the part of the patient, no doubt, account for some of this percentage, but it is all too true that the majority of these lesions are beyond the early stage when symptoms show up.

The logical conclusion here is obvious. The cases that we can treat effectively are the ones that we look for and find in their incipiency before symptoms develop.

We believe that if the patient and the doctor would co-operate to the end that every woman who, between the ages of thirty and sixty, has been prognant, would have the reproductive organs examined every six months, the mortality of cancer in these women would be only a small part of what it now is. The examination takes only a few moments and is not particularly painful.

A few years ago the public was sold on the slogan, "See your dentist twice a year," to the very great advantage of the patient. The recently initiated campaign against syphilis is showing results and demonstrates the value of publicity against problems of this nature. If we could popularize the idea that every parous woman between thirty and sixty should see her doctor twice a year for a pelvic and breast examination, many lives would be salvaged.

A notable step in this direction has been undertaken by Dr. Catharine McFarlane and her associates at The Woman's Medical College Clinic in Philadelphia. A call was sent out for one thousand women to come twice a year to this clinic for pelvic examinations, which were to be reported to their family doctors as a basis for treatment. Twelve hundred women ranging in ages from thirty to eighty enrolled as volunteers and are being followed. If lesions resembling cancer are found a biopsy is done. In this way three cases of cancer were found in the group that were unsuspected. The whole group now has reasonable security against dying from cancer of this source. There is no reason why similar plans can not be carried out both in our private and clinic practice.

The usual symptoms suggesting cancer, including disturbances in the menstrual cycle. abnormal discharges, etc., must be investigated; but since there are no reliable symptoms of *early* cancer, we must look for *signs*. In the breast, which is an accessory organ of reproduction, routine examinations are most important. The cardinal symptom of carcinoma here is the appearance of a small firm mass, which is best palpated with the patient lying in a dorsal position and with the examining hand flat against the chest. Chronic cystic mastitis is said to be a predisposing lesion and such cases must be carefully watched. All suspicious lumps should have a biopsy.

Carcinoma of the vulva and primary vaginal carcinoma are uncommon, but are usually seen in the fifth decade; and precancerous lesions are usually present. These include leukoplakia, kraurosis, pruritis and frank ulceration. Seventy-one per cent are reported by one author as having five-year cures following surgical removal.

The most common symptom of ovarian tumors is menstrual disturbances, but the diagnosis is best made on routine bimanual pelvic examination. To quote Burnam: "An excellent picture as to the percentage of occurrence (of pelvic tumors) is afforded by 555 consecutive cases from the Johns Hopkins Hospital records. There were found 248 cystadenomas, 86 papillary cystadenomas, 81 cancers, 33 fibromas, 15 sarcomas, 90 dermoids, and 2 unclassified tumors. The cystic tumors greatly predominated and were frequently found malignant on thorough microscopical study." Since there is a notable tendency for benign ovarian tumors to undergo malignant degeneration, surgery should not be delayed too long.

Carcinoma of the uterus is by far the most common cancer seen in the reproductive system. Ninety per cent of these are in the cervix, and of these ninety per cent are seen in women who have had a pregnancy, as stated before. The ten per cent that affects the body of the uterus is seen just as often in women who have had no pregnancies.

The uterus and the uterine cervix must be carefully examined under favorable conditions, or grave errors in diagnosis will be made. McFarlane states that, "The usual vaginal examination made with the patient lying comfortably on a soft bed in her own home is worse than useless." The patient must lie on a firm table, and for inspection a good light and a bivalve speculum are necessary.

Carcinoma of the fundus metastasizes relatively late and thus offers a potentially better outlook than in the cervix. The earliest sign is persistent intermenstrual or postmenstrual bleeding, usually between the ages of forty and fifty-five. A curettage for biopsy material is necessary in the face of this symptom.

Cancer of the cervix, metastasizing relatively early, demands prompt treatment. Since the cervix is a frequent site of benign lesions, differential problems arise. Inflamed or ulcerated lesions demand investigation. If the cervix bleeds to touch or manipulation, the probability of cancer is increased.

Hinselman's colposcope magnifies the cervix, but it is not an essential instrument, is expensive, and demands much experience in its use. Schiller's method, consisting of painting the cervix with Gram's iodine solution for the purpose of revealing light-straining areas of glycogen deficient tissue, is not specific for cancer, but is of some value in determining the site from which a biopsy is to be taken.

The probe test consists of pushing a blunt probe gently against the suspicious area of the cervix. If it sinks into friable tissue the lesion is likely malignant and deserving of biopsy, which is, after all, the criterion and the supreme court in the diagnosis of malignancy.

CONCLUSIONS

A. Chronic irritation predisposes to the development of cancer.

B. Timidity and lack of knowledge of the earlier signs of cancer are major causes of cancer coming to the attention of the physician in the more advanced stages.

C. The majority of cancers in women occur in the reproductive system, and a high percentage of them are beyond effective control when discovered by the physician. This state of affairs can be improved by:

1. The practice of giving every young mother a follow-up examination, and to correct any source of chronic irritation predisposing to the later development of cancer.
2. The correction of existing chronic cervical diseases such as cervicitis, erosions, lacerations, cystic disease and leukoplakia by the use of the cautery, by conization and by cervical surgery, realizing that carcinoma is rarely a subsequent development when this is done.
3. Frequent employment of biopsy in suspicious lesions in justice to the patient as the only positive means of differentiating benign and malignant lesions.
4. Not omitting breast and vaginal examinations in routine office practice except for particular reason.
5. An intensive publicity campaign by the medical profession and all health agencies using every means available, urging that every parous woman between the ages of thirty and sixty see a physician

twice a year, for the purpose of having a thorough examination of the generative organs.

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DISCUSSION

Dr. L. B. Austin (Rosedale): There is a law that controls the creation of cancer. The development of a cancer is a chemical process, so the individual creating a cancer must meet the requirements. To be able to prevent a cancer we need to know the chemical law governing the function of repair.

A cancer is a new growth and the tissue has the same microscopic appearance as embryonal tissue, which is due to the fact that the embryo does not breathe therefore does not supply the blood stream with oxygen.

So we say that the body cells living under the creative law must repair themselves by using the raw material furnished by the blood and red blood cells.

The requirements are:

1. Hyperalkaline blood
2. Hyperalkaline red blood cells
3. Deficient oxygen in the body cells
4. Increased carbon in the body cells
5. Chronic irritation or injury.

A cancer is the penalty for not furnishing the body cells with the material needed to make normal repairs.

Dr. G. S. Bryan (Amory): To discuss this paper I think will require more than five minutes, hence I shall not undertake to discuss the paper from a scientific standpoint. I will say this, that I have had the privilege of glancing hurriedly over the paper before I heard it read. In my opinion it is one of the best papers I have heard presented during the years I have been a member of this Association. It is well thought through, systematically arranged and was very splendidly read.

To me, cancer is an unknown quantity. The cause of cancer, I am sure, is yet unknown. Not very long ago I had an occasion to write to many, many persons who are recognized as authority along these lines. I asked quite a number of questions. I sent the same questionnaires to all of them, and one of the questions asked was "What is the cause or etiology of cancer?" Not a single man dared tell me what the cause of cancer is. These men lived in the East, lived in the West, lived in the Middle States, lived in the South, and not a one of them claimed to know the etiology or cause of cancer, and I insist that until the real cause is known and made clear, any and all efforts to control or shorten the spread of cancer will be unavailable. If the time shall come—if and when it does come—when we know the etiology of the cancer and the true nature of the cancer, then cancer can be prevented and cancer can be cured.

We heard last night from one of the most eminent men in the nation that cancer is preventable and curable. That is encouraging—very encouraging—but gentlemen, I must take those statements coming from a man such as he, with a grain of salt. The public is cancer conscious. Thirty-five years ago Bloodgood instituted and started a campaign of making the public cancer conscious. How well he succeeded is well known, and yet the incidence of cancer is rapidly increasing. The mortality is not decreasing. Every word that Dr. Baugh said I want to accept and emphasize. That paper contains something more than 60 statements, and I would not question a one of those statements. I wish every member of this Association might have heard it.

Dr. Felix J. Underwood (Jackson): No one appreciates more fully than I Dr. Baugh's views with regard to prevention and control of cancer. I am in thorough accord with him that we should make better use of the knowledge we have already accumulated, rather than wait for scientific research to make known more specific methods for checking this growing menace to life and health. Last year we lost 1,387 lives from cancer in Mississippi, and

1,395 lives in 1938—which is three times the number of deaths we had from automobile accidents each of these years. Cancer has become a major public health problem, and in the light of present knowledge the most effective approach to this problem is extensive lay education. For until the laity generally have a better understanding of the disease and learn to seek medical attention early, we cannot hope to accomplish much. Intensive educational campaigns have proved effective in reducing syphilis and tuberculosis; it is not too much to expect widespread enlightenment regarding cancer control to have a similar effect.

In spite of all efforts at control in the past, mortality from cancer of the female genital organs seems to be steadily increasing. There were 16,442 deaths from this cause, in 1930, in the country, and in six years this figure had increased 13 per cent. Of these figures, 83 per cent of the deaths tabulated were due to cancer of the uterus, which has a higher degree of accuracy in diagnosis than most of the internal sites of cancer. It goes without saying that death might have been avoided in many instances had these women realized the seriousness of their early symptoms and without delay placed themselves under competent medical care.

The value of the periodic health examination cannot be over-emphasized, and physicians share a definite responsibility in both education and follow-up measures. Since we know that chronic irritation plays an important part in cancer cases, intelligent obstetric care is not to be overlooked. Dr. Baugh is absolutely right in emphasizing the immediate repair of cervical injuries as an important preventive measure. It has been estimated that 95 per cent of cancer of the cervix occur in women who have damaged and diseased cervices. One authority[1] points out that because vaginal discharge and bleeding are the earliest manifestations of most gynecologic cancers, a campaign of education of what to expect and what not to expect during menstrual life should be waged relentlessly until it reaches all classes of individuals. The majority of cases of uterine cancer are in the advanced stages of the disease before they present themselves for medical attention. It has been suggested that a comprehensive course in female physiology as it pertains to the genital organs could well be a required high school subject for all girl students. Such a course would not only include normal physiology but would emphasize the possible significance of the abnormal in its relation to malignant disease. There seems little excuse for not educating young women along this line. Our present inability to intercept cancer in the female reproductive system seems due in large measure to the fact that women in general do not realize what the early symptoms are and their disastrous consequences when competent medical attention is delayed. One recent survey indicates that only a little more than one-third of the people in this country have been educated to recognize the early symptoms of cancer. Many still believe in the efficacy of salves and serums. Consequently, our first approach to the problem is one of education. Through co-operative effort and the widespread application of knowledge which we have already acquired, we could, and should, reduce immeasurably the mortality and suffering from this cause.

DR. BAUGH (closing): I have nothing further to say except to thank those who so generously discussed my paper.

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A Surgical Clinic

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ROUND TABLE discussions often bring out problems omitted in formal presentation. The most obvious things are often overlooked by clinicians. This can be attributed more to hurry and carelessness than to ignorance.

One is justified in making the statement that the difference between doctors depends not so much on the difference in ability, as it does on how much time they are willing to devote to determining exactly what is the matter with their patients. Hurried examinations of a local part without investigating the body as a whole lead to many unfortunate efforts of diagnosis, delay in proper handling, or to the application of improper inadequate procedures. Such intervention cannot be expected to result in cure for these unfortunate patients.

The above statements are prompted by personal observation:

1. Squamous Cell Carcinoma of the Hand
2. Carcinoma of the Breast
3. Fibrosarcoma of Humerus.
4. The Jaundice Problem.

Within a few months my attention was called by a doctor to a patient who had a squamous cell cancer on the dorsum of her hand. The lesion was about one inch and a half in diameter. There was no ulceration. The edges of the lesion were infiltrated. The tendons on the dorsum of the hand moved freely under the lesion. The doctor in attendance planned to excise the growth and apply a graft to cover the defect. When asked if the patient had any epitrochlear or axillary lymph nodes he said that he had found none. On examination at this time, I was able to demonstrate several large lymph nodes in the axilla. X-ray of the chest showed no evidence of metastasis either to the mediastinal glands or to the lung.

It is perfectly obvious that simple excision of the growth would have been futile. The indications for treatment seemed perfectly clear: (1) excision of the growth, and (2) axillary dissection, (3) to be followed by x-radiation.

The operation was carried out as above indicated and in addition a free full-thickness graft was applied to the dorsum on the hand.

A few words about the axillary dissection may not be out of place. In order to do an adequate axillary dessection, a good exposure of the axillary artery is essential. For that reason an incision was made from the level of the junction of the middle and outer third of the clavicle extending transversely across the axilla to the posterior axillary line. After the skin and subcutaneous fat had been incised, the pectoralis major and minor muscles were sectioned and retracted, thus exposing adequately the axillary vessels. The fat in the axilla, all of the tributary veins, as well as the branches of the axillary artery were sectioned, and the entire mass of fat and lymph nodes removed. With good exposure there is no indication nor any need for a great deal of trauma. Failure to obtain adequate exposure increases trauma, prolongs an operation, increases hemorrhage and diminishes the chances for satisfactory dissections.

CASE 2. Mrs. M., age 54, was referred to me for treatment of a supposed arthritis and neuritis of the right shoulder. This patient had been under observation of competent doctors for a period of more than eight months. She had noticed a swelling of her right arm, and the right side of her chest. The pain had been constant, but not intense. There had been no febrile reaction, nor had there been a history of an injury. She had, however, noticed a marked weakness of the right upper extremity, particularly affecting her grip. Her chief disability lay in her inability to raise her arm sufficiently to comb her hair. This patient had complained to her physician that she was unable to eat without suffering from distention and belching. She also had noted progressive weakness.

When the patient was examined we noticed a marked loss of symmetry of the two supraclavicular regions. On the posterior aspect of her neck there was a definite elevated prominent mass. Cervical glands on the right side along the trapezius were hard, large, and they were very tender to the touch. The patient was unable to raise the right arm to the horizontal position, and if it was passively elevated and not supported, the arm and hand dropped to the side. There was no loss of symmetry of the two shoulders, and the head of the humerus could be rotated without evidence of joint crepitus or any limitation of motion.

Breasts: Loss of symmetry of the two breasts. Nippls of the right breast was retracted. Examination revealed a large mass in the outer quadrant of the breast; the mass was hard and nodular. The right arm seemed to be slightly larger than the left, particularly in the region of the axillary fold. X-ray of the chest, skull, pelvis and long bones revealed no evidence of bony metastasis or metastasis to the mediastinal lymph nodes or to the lung.

Comment: Here we had an unmistakable case of a carcinoma of the breast with metastasis to both the axillas, the supraclavicular nodes and even to the nodes along the trapezius muscle—clearly an inoperable condition. And yet this patient had been treated for several months for an arthritis and for a neuritis. The only explanation which seems at all possible to offer is that the doctor who examined this patient did not have the patient remove her clothes sufficiently to examine the chest.

It seems hard to believe in these days when everybody should be "cancer conscious," that a patient could be allowed to go to such a stage without even having a diagnosis made.

You will note that pictures of the skull, as well as the chest, the pelvis and the long bones were taken. Some surgeons, notably Monte Reid, believe that metastases occur to the skull earlier than to other places.

It is wise in all cases where tumor of the breast is found, to obtain x-ray pictures of the skull, the chest, the pelvis and long bones, before any proposed so-called radical operation is undertaken. It is my impression that if cases were studied more carefully there would be fewer so-called early recurrences, which in reality are not recurrences, but metastases which existed prior to the operative procedure.

Within recent years a great deal has been said about interstitial irradiation with radium, and deep x-ray therapy for carcinoma of the breast. Mr. Geoffrey Keynes, of London, is the most ardent advocate of interstitial irradiation in preference to so-called radical operation. It has been shown by his associates and others that at least 50 per cent of the patients who have been subjected to interstitial irradiation have active cancer cells present in biopsy specimens as late as six months after irradiation. This being the case, it seems logical to continue with a radical operation until such time as it can be shown that irradiation of any kind can give better results.

The radical operation must include not only the removal of the breast and the axillary lymph nodes, but the muscles of the chest wall as well. In order that one can feel that his axillary dissection is as nearly complete as possible, the muscles remaining in the axilla must practically be freed of all fat; likewise the fat along the axillary veins must be entirely removed with the glands associated with them.

Unfortunately, in the above mentioned case there was nothing to be done in a surgical way and deep x-ray therapy was attempted more to see how much relief could be accomplished. Unfortunately, no regression occurred, the lymph edema of the arm increased, and the patient in a period of about six months succumbed to the disease.

These unfortunate experiences should not occur. They are purely the result of omissions on the part of attending physicians.

In a study of carcinoma of the breast of cases at Charity Hospital in 1938, I found that 53% of the white patients and 60% of the negro patients, had metastases to the axilla on admission.

Another sad commentary was the fact that the average duration of symptoms for all admissions was one and six-tenths years. More than 21% of all white patients had symptoms for more than a year and a half on admission.

These facts give us cause to pause for a moment to see whether we are examining our patients as carefully as we might.

I would remind you that disappointments in cancer surgery at best are very great. There are several causes for this. One of the commonest causes is incomplete knowledge of the extent of the existing disease. Physical examination and clinical symptoms are sources of disappointment because they too are but the interpretation by the mind of hidden pathology. I am sure that you will all agree that physical examination of the chest does not always reveal the existence of metastasis to the lung. Only a well-taken and properly-interpreted x-ray of the chest will give evidence of metastasis to the lung or to the mediastinal lymph nodes.

Statistics with reference to pulmonary metastasis in carcinoma of the breast are inadequate, since it is not the universal practice to have an x-ray picture of the chest. It should become an essential part of an individual's practice to make prior to every operation an x-ray of the chest.

One cannot rely on symptoms such as cough, or sputum examinations. Cough even when present is often misinterpreted as evidence of other conditions, such as tuberculosis. The character of the sputum in metastasis to the lung is not by any means specific. **It may be mucopurulent and not blood-stained.**

Case 3. A white male, age 56, for the past several months has had shooting pains and "arthritis of his right shoulder." His physician told him he had neuritis. He was treated in Hot Springs, no relief being obtained. He visited a clinic in Hot Springs, and was there told he had a bone tumor. When an operation was advised, the patient refused. He did not come under our observation until some months later when he had a pathological fracture of the humerus. A disarticulation at the shoulder was done. Pathological diagnosis was fibrosarcoma.

X-ray pictures had been taken at various times for two months prior to the time that the patient was first observed by us. The first pictures which were presented to me showed a marked osteolytic process of the upper end of the humerus and in places definite destruction of the cortex and evidence of an old fracture just below the anatomic neck of the humerus. Considering the picture there was nothing typical of any specific etiologic factor. A moth-eaten appearance and a breaking-through-the-cortex and the absence of any proliferation on the surface seemed to indicate that it was not a true osteogenic sarcoma. A typical osteogenic sarcoma presents evidence of the old shaft inside of the proliferated new bone, usually laid down in radial fashion as contra-distinguished from the Ewing type of tumor, which is laid down in onion-peel layers. Multiple myeloma usually involves more than one bone and especially the cranium. Osteomyelitis seemed to be eliminated because of the absence of any inflammatory manifestation or sequestration. Tuberculosis is usually considered the only purely destructive lesion which we have. As a rule sarcoma does not cross the joint and you will note in this case there was no evidence that it had crossed to the scapula.

About one year after operation the patient reappeared with a swelling about the shoulder girdle and an x-ray picture indicated that a definite involvement of the scapula had occurred. For this an excision of the scapula was advised.

Sarcoma of bone is comparatively rare. Osteogenic sarcoma is more common than the fibrosarcoma.

Pain in the long bone in an otherwise healthy young adult not associated with evidence of acute inflammatory manifestations (if there is no positive history or other physical findings suggestive of lues) should at least arouse suspicion. The part of the question should be subjected to careful x-ray study.

Biopsy, if not followed by an immediate operation, is both inefficient and dangerous. The biopsy is not always diagnostic.

While x-ray manifestations are most reliable, they are at times confusing and misleading, as they were in the case under discussion.

Regional lymph nodes rarely if ever are involved in bone sarcoma. Osteogenic sarcoma rarely invades the neighboring joint.

Irradiation, whether with radium or x-ray, has not proved up to the present time an adequate substitute for early surgery. Surgery to be effective must be early and radical. If diagnosis can be made before metastases have occurred amputation offers the most hopeful method of cure. Forssel, one of the greatest radiologists, once stated: "It is very doubtful whether radiation prior to or after amputation is of any use."

"Radiologic treatment alone should as yet not be advised in operable cases of osteogenic sarcoma of long bones."

Gall Bladder Cases—The Jaundice Problem

Jaundice is an unpleasant manifestation in the life of man from infancy to old age. Its significance is not always easily determinable. Certain formulae which have come to be accepted are useful at times, though often misleading. Formulae like all short cuts lead the inexperienced into many snares. The more one sees of patients who are jaundiced, the more convinced he is that careful study must be made in order to differentiate the various conditions which may be responsible for the jaundice.

It is important for us to utilize every possible means for differential diagnosis, so that in those cases in which surgery is applicable it should be used only when and where it is indicated. By **when** I mean in obstructive and hemolytic cases and not in toxic cases. By **where** I mean whether surgery should be applied to the biliary tract or to the spleen as indicated. When jaundice is present there are many tests which are of value in determining whether one is dealing with an obstructive lesion or hemolytic lesion, whether hemolysis is due to a toxic factor or to a disturbance of the reticulo-endothelial system; biochemical phenomena aid us in these differential efforts. Examination of the blood, urine, stomach contents, and the stool are all of tremendous value.

In the jaundiced patient a high icteric index, the absence of bile from the stomach contents and from the stool, and the presence of bile in the urine associated with a positive direct van den Bergh, suggest an abstructive jaundice.

In the presence of jaundice, bile in the stomach contents, in the stool, absence from urine, an associated indirect or delayed van den Bergh, suggest a hemolytic type of jaundice. If associated with this latter picture one finds an enlarged spleen, an increased fragility of the red cells and a marked secondary type of anemia and the jaundice has been progressive and painless, the hemolytic or familial type of jaundice is suggested, indicating splenectomy.

If one is dealing with a toxic condition, rather acute in onset, jaundice may be due to an acute hepatitis and cholangitis, such as is sometimes associated with the toxemia of pregnancy. Cholesterol determination and the more recently developed bromo-sulphaline test of liver function are of value in determining the amount of hepatic damage which exists.

One often hears the statement that progressive painless jaundice is diagnostic of malignancy; and we are all familiar with the statement that jaundice associated with pain is indicative of stones in the common duct. These statements are not absolutely correct and should be avoided by anyone attempting to arrive at a conclusion as to what should be done for a particular jaundiced patient. It is a fact that progressive painless jaundice may be associated with a stone in the common duct (about 20%).

It is also a fact that painless jaundice may be associated with malignancy. This indicates one definite conclusion; patients should not be refused operation because of progressive painless jaundice. There is no justification for the attitude that there is no help for these patients. The acceptance of dogmatic teachings deprives some of these patients of a chance of recovery which might follow if other factors of diagnostic importance are considered but even then the possibility of error cannot be overlooked.

It is my definite conviction that these patients are entitled to exploration and drainage if necessary. If malignancy exists, a cholecystenterostomy can be done, as it may relieve some for a while at any rate.

ILLUSTRATIVE CASES

Case 1. Jaundice due to a toxemia associated with a seven-month pregnancy.

Patient was jaundiced, with a history of albuminuria, and irregular septic temperature and a toxic psychosis. Examination revealed an enlarged liver, the abdominal muscles relaxed, no tenderness in the right hypochondrium, the van den Bergh reaction indirect, which showed that we were dealing with a hemolytic rather than an obstructive jaundice.

We advised termination of the pregnancy and against surgical intervention directed at the biliary tract. Labor was induced. The patient died. Autopsy confirmed our impression of toxic hepatitis from pregnancy. No evidence of biliary tract disturbance was found.

CASE 2. Mrs. A. G., age 56 years. Patient had been under the observation of an internist for six weeks. Weakness and painless jaundice progressed. Examination revealed jaundice, a large liver, and a palpable mass which was not particularly tender to the touch in the right hypochondrium, which we believed to be the gallbladder. The icteric index was 105; the urine contained large quantities of bile.

Preoperative diagnosis: obstructive jaundice, probably malignancy; the presence of stones in the gallbladder or in the common duct could not be avoided. When the patient was operated upon about 200 facetted stones were found in the gallbladder and in the ducts. Four or five stones had slipped down into the common duct, and some were found in the hepatic duct.

The outcome of this case was a fatality. The cause is not difficult to find. Delay was responsible for a toxemia and an acute involvement which led to suppression of urine.

One of the most interesting cases of obstructive jaundice that I have ever seen was in an individual who had Hodgkin's disease. The jaundice was due to an extra-biliary lymph gland which, by its size, caused an obstruction of the common duct. Removal of this particular gland and drainage of the common duct relieved the patient for some time and made the terminal phase comfortable.

Case Miss S. B., about 65 years of age. Present illness began one week ago. Patient developed nausea and vomiting. She had one loose stool. The symptoms were attributed by her attending physician to an autointoxication. The physician ordered calomel. She had no bowel movement for six days. Four days after the giving of the calomel, the patient developed a marked icterus, which became progressive. She had occasional right-sided upper quadrant pain, which was not severe in character. The second physician who saw her noted a distended abdomen and a marked tympanitis; for this he ordered flushes but obtained no results. This physician ordered a flat plate of the abdomen which showed evidence of an ileus. After observing her for twenty-four hours, this physician attributed the jaundice to a toxic hepatitis. He considered intestinal obstruction to be the primary factor.

I was called to see her on the sixth day of her illness at which time I noted marked jaundice, skin extremely dry, almost parchment-like in character, the pulse of good volume but rather slow, the abdomen distended, but no rigidity. On auscultation of the abdomen we heard borborygmus. The icteric index was 65, non-protein nitrogen was 247, the leucocyte count was 20,000. Urine showed large quantity of sugar. Blood sugar was only 129.

The impression on that we had was that the jaundice was probably obstructive in character and that she had an ileus associated with it. Prognosis without surgery was certainly fatal, and that even though surgery would be done, the chance was extremely poor, but we felt that the patient was entitled to that chance. Stones were found in the common duct, as well as in the gallbladder. The stone in the common duct was embedded and encrusted, firmly adherent to the walls of the duct. The duct was tremendously dilated. The gallbladder was drained, the common duct drained as rapidly as possible, and an ileostomy was done. This patient succumbed after a few hours.

If this patient had been seen early enough, and if careful study of her case had been made, early intervention may have saved her life.

Patient, age 76, had a • cholecystostomy twelve years ago. Stones removed from the gall bladder. Enjoyed comparative good health up to about three or four years ago, when she began to have digestive upsets. She was treated for duodenal ulcer. About one week ago she began to complain of upper abdominal pain, nausea and vomiting; jaundice was progressive. When admitted to the hospital the icteric index was 44, the stools were clay-colored, there was no bile in the stomach, bile was present in the urine. She had a positive direct van den Bergh and E.C.G. evidence of myocarditis. It seemed evident that we had a common duct obstruction.

When operation was done, the patient was found to have an old chronic empyema of the gallbladder with a single mulberry stone in the duct. The stone in the cystic duct obstructed the hepatic duct. The common duct was drained, the gallbladder removed, and within twenty-four hours the icteric index was 12, there was free drainage of the bile, and the patient's general condition improved rather rapidly. On the eighth day postoperative the patient began to be somnolent, had suppression of urine, almost complete, and within twenty-four hours died.

Autopsy revealed an acute and chronic type of nephritis, and a myocarditis.

COMMENT

Here again is an instance where early, adequate diagnosis, might have resulted in the saving of a life, and a comfortable existence for a few years.

SUMMARY

"More than 15% of the population of the United States suffer from biliary disease." This figure increases to about 30% after 45 years of age, according to many authorities including Eliason, whose statement is quoted.

This should make us realize:

1. That we must consider the effect of biliary disease on neighboring organs.
2. We should try to make an effort to diagnose as early as possible, the extent of the disease of the biliary tract, and
3. Every effort should be made to differentiate the various factors responsible for jaundice; whether they be intrinsic or calculus obstructions, or extrinsic obstructions due to enlarged glands, which may be either benign or malignant.
4. We should all realize that delay in diagnosis and treatment of these unfortunate cases means an increase in the destructive nature of lesions in neighboring organs, and
5. Surgery applied to those patients at a late stage is anything but a satisfactory experience.

I believe that the fault lies particularly in our failure adequately to utilize all possible means to make an early and accurate diagnosis.

A final word with reference to the question of hemorrhage in jaundiced patients: We all realize that the tendency to hemorrhage in jaundiced patients is greater than in the average patient.

Recently vitamin K has been placed at our disposal, and with its aid in association with bile salts given preoperatively, the hemorrhagic factor can to some extent be controlled. Transfusion must not however, be overlooked, even though vitamin K is given in large quantities.

CONCLUSIONS

This presentation has had one purpose—if that purpose is served I will be satisfied. Our shortcomings will be less marked, if more time and more individual thought are given in an effort to make an adequate diagnosis in patients who come under our observation.

Diseases of the Naso-Pharynx*

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ALTHOUGH I shall mention briefly diseases of the naso-pharynx, in general this paper will attempt to discuss in some detail the ordinary inflammatory conditions of the naso-pharnyx seen in the office daily.

Cysts and tumors of the naso-pharynx are seen often enough that they should be looked for in our routine examinations. Cysts are usually of the pharyngeal pouch and are often overlooked due to their position, even though there may be copious discharge from the naso-pharnyx. They require only adequate drainage to affect a cure.

The most common of the malignant tumors is carcinoma. Early diagnosis is essential since surgery in this area is almost impossible, and unless radium and x-ray are used early it is of no benefit due to rapid metastasis. Metastasis is early and rapid upward to the base of the skull. With the resulting paresis of one or more of the cranial nerves it is possible that quite often it may be erroneously diagnosed as brain tumor. The most frequent site is the fossa of Rosenmuller, and due to the difficulty of inspecting this area it is overlooked. Among the early symptoms are enlarged cervical glands, and fullness and discomfort in the ear of the affected side.

Of the infectious diseases we quite frequently see those due to the specific organisms—as syphilis, tuberculosis, Vincent's angina, etc. These respond to treatment as elsewhere.

The conditions that are of primary interest in this paper are the acute, subacute, and chronic inflammations of the naso-pharynx that we see in our office daily, and that have been particularly frequent during the past severe winter.

SYMPTOMS

The acute condition is usually ushered in by a feeling of fullness, dryness, and mild discomfort in the throat on swallowing. This rapidly progresses to a general soreness more pronounced at night and on awakening in the morning. In the milder cases there is a low grade temperature and general malaise which persists for two or three days culminating in an acute rhinitis. In the more severe cases there is marked elevation of temperature, general aching, and prostration, and severe sorethroat.

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-third annual session of the Mississippi State Medical Association, Jackson, Miss., May 14-16, 1940.

In the mild cases there may be only a red streak along each side of the pharynx extending to the posterior nares while in the severe cases the entire naso-pharynx is congested, often with ragged and inflamed islands of lymphoid tissue scattered over the glazed posterior wall of the pharynx. Indirect examination with the mirror shows swelling around the orifices of the eustachian tube, and extending over onto the posterior triangular end of the septum. This swelling about the eustachian orifices accounts for the frequent ear symptoms—pain in the ear with occasional otitis media, or more often a partial blocking of the tube with fullness and deafness.

It is important that careful mirror examinations be made, as often in the milder cases very little or no evidence of inflammation can be seen on direct examination.

In many patients this condition occurs only preceding a cold; in others it occurs with every two or three times during the year, usually radical change in the weather; while some complain of always having an uncomfortable throat.

In the subacute and chronic cases the most annoying symptom is the post-nasal secretion of the mucous or muco-pus. They complain of having to clear the throat frequently, particularly on arising in the morning. It is ofter tenacious and difficult to remove.

It might be well to discuss postnasal secretion or discharge in passing. In my opinion a certain amount is normal. In this day of almost universal smoking the irritation from the tobacco dust causes the mucosa of the nose and throat to secrete an amount that in the non-smoker would have pathological significance. The same holds true of those working in dust or other respiratory irritants. The character of this secretion may help in making a diagnosis. As a rule, in a naso-pharyngitis without complications the secretion is very tenacious, more mucous than pus, and usually has no taste or odor. On the other hand, that coming from the sinuses has taste and often odor, and is almost pure pus.

ETIOLOGY

Back in the days so aptly called by Dr. McWilliams "the sinus age," I was taught that in the presence of a recurring or chronic naso-pharyngitis always to look for a sinus infection for it was almost always present. I would like to state that in my opinion and experience this is rarely true. Certainly in not more than ten per cent is there an overlying sinus infection and if you eliminate those with an allergic background even this figure is reduced. In fact very few of my sinus patients complain of the throat, but only of the disagreeable odor and taste of the secretion.

We see most of these patients as a result of atmospheric changes. The more frequent the change of temperature and the more severe the winter the greater number we see, as evidenced during the past few months. However, most of my patients show one of three underlying conditions that make them more susceptible: The most frequent of these is a mutilating tonsillectomy, by which I mean one in which part or all of the posterior pillars, and in many cases even part of the soft palate, have been removed. You have heard many of these patients say that they never had sorethroat until they had a tonsillectomy. Whenever you see the posterior pillars removed you see scar formation and granulation that always causes a chronic throat. I am so thoroughly convinced of this that it is much more embarrassing to me to see that I have removed part of the pillar than to see that I left a piece of tonsil.

The second most common cause, I think, is nasal obstruction, causing improper ventilation of the nose. There is an accumulation of the normal secretions of the nose that drops back into the naso-pharynx causing a constant irritation. This is most often in the form of a deflected septum. These patients complain often of soreness only on the side of the obstruction, and mirror examination shows an inflamed area extending down from the post choana on that side. Many say that there is an ethmoiditis present on that side. I do not think so, for only by doing a submucous resection will you get complete relief.

An allergic or vasomotor disturbance in the nose may cause a similar condition often difficult to relieve.

The third condition most often seen as a basis of naso-pharyngitis is a granular or lymphoid hyperplasia of the naso-pharynx.

This is more often seen in children and especially in those who had tonsils and adenoids removed at an early age—usually under five years. In my opinion this is nature's way of compensating for the loss of part of Waldeyer's ring at an age or in an individual to whom it is essential. This same granular condition is often seen in adults who are constantly exposed to dust or other irritants.

Besides the above there may be other causes in individual cases that can be brought out in a careful history.

As to the bacteriology in these cases I think it varies widely and has little significance except in specific cases—as diphtheria, syphilis, etc.

Certainly the term "streptococcic sore throat" has been over-worked during the last few months by both the general physician and ourselves. Septic or streptococcic sore throat is rare in our climate and usually occurs in milk-borne epidemics, the offending organism being of the hemolyticus group of Schottmuller. Helmholz has shown that the type of organism found in cultures of the throat has little or any relation to the frequency or severity of upper respiratory infections. In cultures taken on eighteen patients every two weeks over a period of two years, he found strep. viridans in 90 to 100% of the cultures and strep. hemolyticus in 44% of the 486 cultures. Even in those showing a high per cent of positive hemolyticus infections were no more frequent or severe than in the negatives.

Certainly the appearance is misleading for often those showing the greater inflammation and congestion will respond best to treatment.

TREATMENT

General measures should follow those of any other upper respiratory infection depending upon the severity of the infection. In the acutely ill, rest in bed, laxatives, opiates, etc., should be prescribed.

Specifically for the naso-pharynx the drug on every tongue and for almost every ill is sulfanilamide or one of its derivatives. Personally, I think it has been abused. I think it should be reserved for the true streptococcus infection or where the percentage of hemolytic to other organism is very high. I think it does little, if any, good in the ordinary acute cases seen, and none whatever in the chronic cases. Most cases will clear up in from twenty-four to seventy-two hours under local applications. They will do the same thing if sulfanilamide is given along with the local applications, but the patient will be a darn sight weaker. I would not like for you to get the impression that I do not use the drug, for I do where I think it is needed, but not just because the patient has an inflamed throat. In 289 cases of primary naso-pharyngitis seen during the past year I have used it in only eight cases, and in these due to ear and glandular complications.

I feel that the most important point in the treatment of these cases is to get medication to the seat of the infection—that is, the upper part of the naso-pharynx. Swabs of the silver preparations, tinctures, and dyes will take care of the pharynx, but it is difficult to get a swab into the naso-pharynx without causing trauma. Most of you have your own particular technic for medicating this area, but I will pass mine on for what it is worth. I find that it is easier on the patient and more efficacious if a solution is instilled into the naso-pharynx. The preparation that I have found most satisfactory is of 1½% guaiacol with a small amount of menthol and oil of cassia in liquid petrolatum. It is instilled with a syringe and canula—a urethral tube being much better than the usual laryngeal canula. This preparation immediately soothes the throat and promotes rapid healing. In the chronic cases it liquifies the tenacious mucous, and the secretion from the mucous glands rapidly subsides.

In those cases where the granular or lymphoid islands persist in spite of local treatment small doses of x-ray will often give marked relief, a total of 1200r units usually being given in about six treatments.

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DISCUSSION

DR. CHAS. A. MCWILLIAMS (Gulfport): Dr. Hughes has given us a very practical paper. I shall make a few comments. In making a routine examination I always use a Holmes naso-pharyngoscope in addition to a mirror examination. I get more satisfaction and information with the naso-pharyngoscope than the mirror. Just recently I had a patient who had been treated for several months by three otolaryngologists for deafness in his left ear. He had a carcinoma in the fossa of Rosenmuller. It was impossible for me to see the growth with a mirror.

Several years ago Dr. Cameron Montgomery called my attention to a violet color in the postnasal space which he thinks is due to gall-bladder disease. I have seen quite a large number of these cases and the majority do give gastro-intestinal symptoms. Treatment directed to this cause gives more relief than local treatment.

I treat the subacute and chronic postnasal pharyngitis cases with the through and through irrigations with suction, using normal saline solution. In some cases I use Proetz displacement with a weak solution of ephedrine and very gentle suction.

Tobacco is often a cause of an excessive secretion. If I can get the patient to quit smoking for two weeks and use a hot saline gargle he will get much relief. The patient who complains of sore throat after tonsillectomy is given iodides and usually obtains relief.

Since Dr. Hughes passed up allergic conditions, I will too, for I find it very difficult to give much relief, yet I feel I can do as much, if not more than the allergists. I most heartily agree with all of Dr. Hughes' paper and especially want to do so in reference to streptococcic sore throat. This is a rare disease on the coast. I see only two or three cases a year. while I have patients every few days tell me they just recently had a "strep." throat, and were treated with sulfanilamide. I firmly believe this drug should be reserved for genuine cases of streptococcic infections, and not given to every one who has a sore throat.

DR. G. G. ARMSTRONG (Houston): I think Dr. Hughes has given some good points on a very appropriate subject.

Naso-pharyngitis, either alone or associated with other parts of the upper respiratory tract, is frequent. It seems to me that the high point in this paper is the stress put upon thorough examination, especially in chronic conditions. I may not be as adept as Dr. Hughes in the use of the mirror for I often have to use other means to make a satisfactory examination.

O'Conner, of Chicago, reports in the LARYNGOSCOPE 55 out of 59 cases referred for examination because of fatigue and low grade fever which had run a long course. They were found to have a naso-pharyngeal infection, and only 4 of these patients gave any evidence of sinus infection.

In treating naso-pharyngitis, when there is turgescence of the nasal membranes, I prescribe mild astringent instillations, and instruct them as to their use, in addition to office treatment. I believe it necessary to open the air passages frequently to avoid middle ear and sinus complications. I also caution them against holding both nostrils in discharging their nose, or self inflation of their eustachian tubes to relieve the full feeling in their ears.

I prefer using a swab to make applications to the naso-pharynx, especially in the subacute and chronic types. The nasal membranes may be shrunken if necessary, with ephedrine, or in a very sensitive nose a weak anesthetic may be added. With an applicator properly curved with cotton, placed in a way that its tip is well padded, it can be revolved to reach every part of this space, and without producing trauma. Sometimes there are crusts and sticky secretions that are difficult to remove otherwise.

The colloidal silver preparations, such as lunasol, or 10% argyrol have been satisfactory with me in most cases. With others, weak silver nitrate solution or some of the dyes, according to conditions. Of course, Dr. Hughes has said the correction of predisposing defects should be the first step in the treatment of chronic naso-pharyngitis.

Coronary Thrombosis—Its Diagnosis and Treatment*

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The degenerative diseases of age have gradually assumed an increasingly important role in the practice of the physician. They have likewise been a matter of concern to the laity. Preventive medicine has progressively raised the life expectancy of man from 37 years in Washington's time to today's expectancy of 63 years. The captain of the legions of death today is heart disease. Afflictions of the heart are estimated to handicap approximately 2,000,000 people in these United States. In 1932 death from this cause took first place for the first time. The mortality figures show that 224 out of every 100,000 deaths were due to heart disease. Figures recently published in Ohio for 1939 show heart disease not only to rank first, but to claim four times as many victims as its next nearest competitor, namely, cancer. Most striking according to the Metropolitan Life Insurance Company's figures is the almost perpendicular rise in coronary disease from 5.6 per 100,000 in 1930 to 23.1 in 1935, an increase of more than 300% in this very short interval. Tuberculosis, the old captain of death, now rates a poor sixth place. To the medical man that particular form of heart disease known as coronary thrombosis should be of prime importance, for physicians as a class are probably more often permanently removed from circulation by it than are the members of any other single group of mankind.

Historically man's recognition of coronary artery disease may readily be traced as far back as 1768 when William Heberdene, the English physician, gave his classical description of angina pectoris. Unwittingly he also gave a concise description of what we now know to be classical coronary thrombosis. To quote him, "The termination of angina pectoris is remarkable, for if no accident intervenes but the disease goes on to its height the patients all suddenly fall down and perish almost immediately." This is a most remarkable description of sudden death by coronary thrombosis when we realize that scarcely a generation ago the average medical student had never heard the clinical diagnosis of this disease. Jenner, in 1776, attributed these deaths, "to ossification, or similar disease of the coronary artery." However, to a German named Hammer goes the credit for the first antemortem diagnosis of coronary thrombotic occlusion. In 1878 he was called into consultation by a younger colleague. After reviewing the history of the case and examining the patient, he remarked that such a clinical picture could only be produced by a thrombotic occlusion of one of the coronaries. A subsequent autopsy revealed a thrombosis in the right sinus of Valsalva occluding one of the coronaries. Not until 1910 and 1912, however, was this condition clinically differentiated from angina pectoris by the classical papers of Obratzow and Straschezko and independently in this country by Herrick. Even then a number of years elapsed before many physicians became sufficiently aware of the disease to differentiate it from angina pectoris before the victim had reached the autopsy table. Needless to say, this differentiation was important, for to treat a case of coronary thrombosis as angina pectoris is likely to spell doom for the patient.

The dictionary states that a thrombosis is a plug or clot forming and remaining in situ in a blood vessel, hence, coronary thrombosis is the formation of a clot in some portion of one of the coronary arteries, or of one of their branches. We now know that the coronary vessels are not true end-arteries, but anastomose with each other to a greater or lesser extent. We also know the auxiliary role played by the Thebesian vessels. The clinical picture of this disease depends not only on the size of the vessel occluded, but also upon the suddenness with which the thrombosis occurs and whether there was sufficient time to build up a partially adequate collateral circulation prior to occlusion. Once a coronary vessel becomes entirely occluded the muscle supplied by that vessel becomes infarcted unless the collateral circulation is sufficient to keep that muscle area viable. The heart muscle when deprived of its blood supply undergoes a period of anemia, edema and hemorrhage. This is succeeded after the first three or four days by coagulation and liquifaction necrosis. Then a reparative inflammatory tissue reaction occurs with an invasion of the necrotic muscle area by polymorphonuclear leukocytes. The dead muscle is removed by phagocytic action and replaced by granulation tissue rich in blood vessels. The latter is gradually replaced by scar tissue composed of fibrous tissue and elastic fibres, occasionally accompanied by some calcium and fat deposits. It requires about five weeks for this repair adequately to take place.

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*Read before the South Mississippi Medical Society.

If the area of infarction involves the endocardium a mural thrombus is formed in the involved ventricle. This thrombus gives rise to future potential embolic hazards. If the epicardium is involved by an underlying infarct, with its local tissue reaction, a localized area of pericarditis occurs. The area of infarction may become so necrotic and so weaken the ventricular wall, that sometime between the fourth and seventh day, a rupture of the ventricle may occur. Or, if sufficient healing does occur, but much of the muscle has been destroyed, a ventricular aneurysm may be formed with the possibility of rupture at a later date. Sometimes the scar itself is so large and so located that it seriously interferes with the muscular or conduction efficiency of the heart.

The cause of acute coronary thrombosis is unknown. However, it is intimately linked up with whatever causes arteriosclerosis and in particular with selective sclerosis of the coronaries. It is at the sight of one of these atheromatous placques that the thrombus forms. In addition to the narrowing of the lumen of the vessel and a possible roughening of the atheromatous plaque it is probable that there is also a slowed blood flow. Patterson believed that the acute onset is precipitated by an intimal hemorrhage with the foregoing background as a prerequisite. Probably the most important factor is heredity, the potential value of one's vascular tree at birth. Certainly we all know of families more prone to vascular disease than others. The male of the species seems to bear the brunt of this affliction over the female in the ratio of 3 or 4 to 1. This higher incidence in men might be explained by the higher incidence increasingly more frequent after the fourth decade and reaching its peak in the late 50's. However, cases are found in all decades and many are now being reported in the 30's and even in the 20-year group. While the majority of its victims have been hypertensives, this is not a necessary prerequisite. Other diseases which seem to play a role are diabetes, hyperthyroidism, syphilis and occasionally gout, Buerger's disease and polycythemia. There appears to be little or no racial predisposition to the disease. More cases occur during the colder months of the year than during the warmer seasons. Although more cases are seen among the professional and business groups, we are beginning to realize that no one section of society is neglected by its visitation.

In most patients the outstanding symptom of acute coronary thrombosis is the terrifically agonizing, or vise-like pain from which they suffer. At times one finds a patient who experiences little or no pain. The pain is usually centered beneath the sternum especially under the mid-portion. However, it may be mid or left epigastric when it may simulate some acute abdominal condition, such as perforated ulcer, ulcer, acute pancreatitis, intestinal obstruction, appendicitis, or biliary disease. Radiation of the pain is similar to that of angina, namely, into the left shoulder and arm, sometimes into the right arm and occasionally into the neck, jaw, scalp or behind the left scapula. Frequently there is nothing more than a sensation of numbness, or a tingling in the joints of the arms or fingers. The pain of angina pectoris is usually brought on by exertion and disappears within a few minutes if the patient rests, or with the aid of the nitrites. The pain of thrombosis more frequently occurs while the patient is at rest, or even asleep and is not relieved by the nitrites. In fact, he is as likely to move or thrash about in his efforts to escape the pain as he is to remain quiet. As Winslow so aptly puts it, "speechless immobility is not by any means a constant feature in attacks of acute coronary occlusion." The pain may persist for several hours, several days, or even weeks and is almost never relieved by the nitrites. Most patients, if carefully questioned, give an antecedent history of angina pectoris. Nor is it uncommon to have the acute episode preceded by at least several days of premonitory substernal discomfort or pain. Another point frequently elicited in the history of patients who develop acute coronary thrombosis is that for some time they have been suffering from a vague sense of indigestion upon effort following eating.

Most patients have a distinct sense of impending death which is portrayed in their faces by a look of extreme anxiety. Usually they are of a dirty, ashen gray hue, at times frankly cyanotic. They appear to be, and in about 50% of the cases are, in shock. The mortality is about 6 times as great for those in shock. Their skin is moist, cold and clammy, especially the hands. There may be great dyspnea, orthpnea, or Cheyne-Stokes respiration. The respiratory rate may be rapid, and the longer tachypnea persists the more serious the prognosis. Generally the pulse is weak and rapid, ranging from 100 to 120 beats per minute. A rate below 80, unless accompanied by a heart-block gives a good prognosis. A functional mitral murmur from dilatation of the heart and, hence relaxation of the mitral ring is not uncommon. Almost any type of cardiac irregularity may be present sometime during the course of the disease; for example, auricular fibrillation, auricular flutter, paroxysmal tachycardia, ventricular fibrillation, partial or complete heart-block, or multiple extrasystoles. Tachycardia occurs in the majority of cases, but is occasionally absent, especially in cases of posterior infarction. When the area of infarction is in the region of the anterior descending branch, paroxysms of auricular fibrillation occur most frequently. Heart-block is most commonly associated with areas of posterior infarction. Extra-systoles may occur from infarction in almost any location. These irregularities almost invariably disappear in a longer or shorter period of time of their own accord without any medication, except ventricular fibrillation, a late complication which is usually fatal.

Accompanying the accident there is usually extreme weakness with sooner or later a marked drop in blood pressure. However, I have seen cases in which early in the attack the blood pressure was 20-30 mm. higher than that individual's previously recorded readings. This is probably due to pain or fear. This early rise would be followed by a precipitate drop of 50-60 mm. within the next hour. The fall in pressure may set in immediately, gradually, or not occur for a number of hours. The drop in blood pressure is of no great significance in itself unless the pulse pressure drops below 20 mm., the amount necessary to maintain an adequate blood flow. After several days to weeks the pressure tends to return to its previous level, although almost always remaining beneath that level. The severity of the attack is not increased by hypertension. Unless congestive failure is present, the prognosis is favorable whether the patient had or had no previous hypertension. Oliguria is frequently present during the first twenty-four hours and is due to the drop in blood pressure reducing the hydrostatic pressure to a point in the kidneys where the latter have difficulty in secreting urine. Not infrequently a transient glycosuria occurs and need cause no alarm except in pronounced diabetics, as it usually clears spontaneously with improving circulation.

Edema at the base of the lungs, especially on the right side, is a common occurrence and is a sign of early heart failure. Gastro-intestinal symptoms, such as distension, nausea and emesis often complicate the picture. Although it is absolutely necessary, our therapeutic use of morphine for pain often accentuates these very symptoms. In about twenty per cent of the cases a pericardial friction rub develops within a few hours. It persists from several hours to several days. If found it is practically diagnostic. It is best heard in the fourth left interspace near the sternum. It has no particular significance other than as an aid in making the diagnosis. It may or may not overlay the area of infarction, for pericardial involvement may extend a considerable distance beyond the site of infarction. The apex beat is usually invisible and the heart is often dilated, sometimes to aneurysmal-like effect. The heart sounds are faint, distant, sometimes can scarcely be heard and often have a tick-tack quality. Occasionally a gallop-rhythm is heard over the precordium. This is of poor prognostic import as it is more frequently found in patients with congestive failure and with hypertrophied hearts.

Although fever, leukocytosis and increased sedimentation rates are found in numerous other conditions, they are of particular value in the diagnosis of a myocardial infarct and in rendering a prognosis. Leukocytosis and fever usually appear in from six to forty-eight hours. Rectal temperatures are preferable, as false oral temperatures are frequently obtained inasmuch as these patients have a tendency to breathe through their months to relieve their airhunger. The fever ranges usually from 100 degrees F. to 102 degrees F. and persists from seven to ten days. A higher fever or one that persists longer often means a large infarct, or a large mural thrombus and gives a correspondingly poorer prognosis. Although the leukocyte count generally ranges from 14,000 to 20,000 it may even reach 40,000 with a percentage of 75-90 per cent polynuclear cells. The higher counts indicate more severe damage to the myocardium. The sedimentation rates are faster between the fourth and twelfth day, and are one of the most constant phenomena accompanying thrombosis with infarction. It reflects the course of the disease and is of value in following the patient's progress as it persists increased in rate, sometimes weeks after the fever and leukocytosis have returned to normal. Hence, it is of value in guiding and gauging the length of the treatment, and in the diagnosis of the milder cases. Due regard must be taken of its limitations in the face of other active infections. Another clinical manifestation frequently overlooked is the jaundice found, although not marked, in from 15 to 20% of the cases.

The electrocardiogram often becomes a court of last appeal in confirming or rejecting the diagnosis of obscure cases. The majority of cases of thrombosis will be picked up by the first three leads, particularly if serial E.K.G.'s are taken and compared. A small but important group, not picked up by the conventional leads, will be detected by one of the precordial or fourth leads. T-wave changes can be found in most cases within two weeks of the onset of their acute episode. Single normal electrocardiograms are valueless in doubtful cases in excluding coronary thrombosis. Serial E.K.G.'s should be resorted to at such times, as the tracings may be normal at one time and yet show the characteristic T-wave changes a few days later. The electrocardiogram is of value in localizing the infarct in many instances. The changes usually consist of a high take-off of the T-wave in at least one of the three conventional leads. Gradually these T-waves in succeeding records become inverted below the iso-electric line. When we have a high T-wave take-off with its subsequent inversion and the occurrence of a Q-wave in lead I, we may predicate injuries to the anterior part of the heart near the apex of the left ventricle, and then know that the thrombus is in the descending branch of the left coronary. When similar changes occur in lead III we infer the thrombus is in the right coronary, or left circumflex branch and that the infarct is located posteriorly. Wilson has shown that while the changes in the T-wave are often temporary, later returning to normal, the changes in the initial ventricular complexes especially the Q-wave are apt to be permanent.

It may also be mentioned that in expert hands the x-ray may occasionally afford evidence of the extent and configuration of a myocardial infarction.

The most common extra-cardiac complications occurring after thrombosis are pneumonia and embolic accidents. Emboli may result in infarcts of the brain, kidney, spleen, mesentery, or extremities if there is a concomitant thrombus in the left ventricle and of pulmonary infarcts if the thrombus is in the right ventricular cavity. These embolic accidents are far more frequent than commonly supposed. The commonest cause of death is congestive heart failure of the left ventricular type.

Inasmuch as the outcome of any case is quite variable, the prognosis must be guarded at best. Most patients survive their first attack. The mortality rate jumps with each succeeding insult. Should the patient survive the first 24 hours he has passed his most critical period. If he survives the first seven to ten days, he has an excellent chance of recovering from that attack. The immediate mortality varies between 15 and 25%. The average period of survival after recovery seems to lie between two and three years, although many survive five to ten years. Paul White, of Boston, has several seventeen-year survivals nd has one patient living twenty years later. The younger the individual the better the prognosis of survival from his attack, although his ultimate life line is definitely foreshortened. In spite of the fact that age and sclerosis enhance the adequacy of a collateral blood supply, we may say that the more advanced the years, the poorer the prognosis. Winslow states that sudden death from coronary thrombosis is almost twice as common in women, but if they survive the attack their chance of ultimate recovery is better than that of the male.

In spite of no specific medication for coronary thrombosis an accepted plan of treatment has gradually evolved. Perhaps our foremost thought is to relieve the agonizing pain and apprehension of these victims. This requires nothing less than morphine and in dosage sufficient to produce results. Starting with ¼ grain, repeat every 15 to 20 minutes, if necessary, until the patient is completely relieved of suffering. Occasionally as much as 1 grain will be required in the first few hours. Remember that morphine not only relieves pain and anxiety but also lightens the work of the heart by slowing the pulse and lowering the basal metabolism. If the attack is ushered in with acute pulmonary edema, it is well to add 1/150 grain of atropine to the morphine. Otherwise its use is detrimental in that it speeds up the heart rate and further reduces an already inadequate coronary circulation. Later it is usually possible to switch to one of the barbiturates for rest at night, for example, barbital; and to relieve the restlessness and apprehension during the day, phenobarbital. It is a sine-qua-non that the patient is to have absolute physical and mental rest and that as little moving or undressing as possible be done for the first twenty-four hours. They are confined to bed from four to six weeks. Bedford and Levine have adequately shown that only after three to six weeks does repair of the injured muscle set in. They are then gradually and progressively made more ambulant. A minimum of six months is required to return these patients to a level of activity, reduced probably twenty per cent under their previous level, which excites fatigue, dyspnea, palpitation, precordial pain or peripheral edema.

At times lives have been saved by the prompt administration subcutaneously of 1:1000 adrenalin in a pulseless patient. If the emergency warrants it may be given intra-cardially. Complete heart-block with the Stokes-Adams syndrome may also be adequately controlled by ½ to 1 cc. of 1:1000 adrenalin when needed or in conjunction with ephedrine sulphate, paradrine, or propradine hydrochloride orally. Frequently it becomes necessary to use adrenalin with heat, elevation of the foot of the bed, etc., to combat frank or incipient shock. Aminophyllin, caffeine-sodium-benzoate and coramine are at times needed as a circulatory or respiratory stimulant. I have seen the intramuscular use of aminophyllin relieve Cheyne-Stokes respiration in a matter of minutes. Coramine is supposed to act particularly well in cases of peripheral vascular collapse. Digitalis is absolutely contra-indicated for ten to fourteen days at least, because of the danger it promotes of dislodging emboli or even causing ventricular rupture. In fact its only indications are the presence of congestive heart failure or persistent auricular fibrillation.

Quinidine sulphate in 3 grain doses t.i.d. after an initial test dose, is given by many men in the belief that it tends to prevent ventricular fibrillation, a late complication. The quinidine medication is continued throughout the first two weeks. This drug is also of definite value in controlling the paroxysmal ventricular tachycardia that sometimes occurs. Almost routinely sometime during the course of the disease aminophyllin, theominal, diuretin or some one other of the xanthine coronary vaso-dilators is administered. Whether or not they actually aid in the establishment of a collateral circulation and are of real value as vaso-dilators is still a moot question. However, the nasal catheter with 4-6 liters per minute gives a 30-35 per cent O_2 concentration in the pharynx and is also satisfactory, accessible to all, and inexpensive.

When the patient is greatly dehydrated from excessive perspiration or has been unable to retain fluids by mouth because of repeated nausea and emesis, a 1000 cc. hypodermoclysis of 5% glucose in normal saline is very valuable in restoring the NaC1 loss, and in boosting the patient. Some men recommend the slow administration of a 100 cc. of 50% glucose intravenously for several days, believing it bolsters the glycogen of the heart muscle. I believe, as Scherf has recently indicated, that this is not without danger and should be used cautiously. Considerable use has also been made of 25-40 cc. of 50% dextrose given slowly intravenously from time to time in alarming circulatory failure. Later much the same benefit may be derived by giving glucose orally in orange juice and with less danger. During the early days, the patient's diet consists mainly of nutritious liquids which should be restricted to 1000-1200 cc. daily. As improvement sets in, easily digested solids may be gradually added. A low caloric diet of 650-1000 calories is beneficial for most of these patients for a week or ten days at least, as many of these patients need to be reduced. Four or five small meals are better than the usual three. Then, too, a low caloric diet has a most salutary effect on the heart and heart rate by the lowered body metabolism thereby induced. Coffee and alcohol may be given in moderation, but tobacco should be absolutely forbidden. Vitamin C is added to the diet by many because of the possibility it may promote healing and aid in the formation of new capillaries. Great care and judgment is required as to when to institute active treatment of either diabetes or syphilis complicating a case of thrombosis.

Last in this paper, but not least in the minds of the patient and of his family, the problem of the daily bowel movement assumes vast importance. However, the wise physician will allay their fears and neglect his patient's bowels for the first two or three days. Then an enema and mineral oil régime may be instituted. Two or three ounces of mineral oil per rectum at bedtime will frequently be all the patient will require for a satisfactory daily evacuation. If necessary, cascara may also be given by mouth to fortify the mineral oil. In the event that the respiration or the heart should be embarrassed by abdominal distension, free use should be made of the rectal tube, turpentine stupes and glycerine and oil enemas.

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The Indications for, and Results from, Operations on the Biliary Tract*

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THE UNQUESTIONED frequency of inflammation of, and of stones in, the gallbladder serves to make this subject one of perennial interest to clinicians. More recently the contributions of Allen, and of others, have emphasized that calculi are present in the extrahepatic ducts in 12 to 20 per cent of all patients having gall stones. It is proposed in this communication to discuss the recognition of these lesions and, believing that the ultimate destiny of surgical patients is second in importance only to a consideration of the immediate mortality rates, suggestions toward obtaining improved end results will be made. Acute cholecystitis, and its problems, will not at this time be considered.

The advent of cholecystography enhanced tremendously our ability to recognize cholecystitis and cholelithiasis. Singleton[1] believes the true status of the gallbladder can be better determined by this test than by actual inspection and palpation of the organ at operation. The diagnostic accuracy of cholecystograms is variously estimated at about 96 per cent—by some roentgenologists it is believed to be absolute. In full knowledge of the accuracy and extreme value of the Graham test, I am nonetheless one of the dwindling number, who believe still that this examination is not always the whole story and I doubt it will always automatically or infallibly establish the fact that some form of cholecystopathy is, or is not, present. Here, as elsewhere, an accurately taken and properly evaluated history is of the utmost importance. For many years Judd maintained that patients having significant disease of the gallbladder and extrahepatic ducts complained of a qualitative dyspepsia. It has been my experience that patients lacking this history usually do not obtain a satisfactory result from cholecystectomy. I agree further with Graham and Mackay[2] that the highest percentage of unrelieved patients in gallbladder surgery is those with minimal disease. With Allen, I have become increasingly dissatisfied with the necessity of a microscopic diagnosis in cholecystitis. It is not intended to deny the great value of cholecystograms for the examination properly conducted is of the utmost value, but the modern tendency to resort to extraneous aids, even though their value and relative accuracy is unquestioned as a certain or as the sole method of arriving at the correct solution of a diagnostic problem is heartily deplored.

It is nonetheless true that our old idea that the patient possessed of a diseased gallbladder must be a blond female of forty who belched constantly, must be discarded. In my own experience, cholelithiasis is not a rarity in youth and the thin individual is not immune to the disease. The idea expressed by some that the negro is not subject to gall stones or biliary tract pathology is likewise a fallacy.

Individuals having stones in the gallbladder are apt to suffer episodes of severe abdominal pain. However, many calculi may be present in the gallbladder without their attempting to pass and therefore without colic occurring. It is doubtful, however, that utterly "silent gall stones" ever exist. Bouts of severe pain, succeeded by residual soreness in the right upper abdomen and followed by jaundice and alcoholic stools, leave little to the diagnostic imagination. It is, however, important to realize that calculi may be present in the extrahepatic ducts without jaundice being noted or a history of its occurrence being obtained, though in my own experience patients proved at surgery to have choledocholithiasis have given a history of having had, on one or more occasions, jaundice, in a preponderant majority of the cases. Spontaneous vomiting does not usually occur unless stones are present in one of the ducts, though patients frequently induce vomiting to obtain relief from the full flatulent feeling that accompanies genuine cholecystitis and cholelithiasis. The individual who, in addition to having a chronic qualitative dyspepsia accompanied by attacks of colic followed by jaundice, develops fever and chills, has likely a cholangitis.

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The problems of allergic individuals have in recent years been so widely discussed in both daily newspapers and professional journals that this subject has been at times subjected to ridicule. It is nonetheless true that certain individuals, and for that matter no small number, do have various allergic reactions and manifestations that mimic acute and chronic abdominal diseases in general, and cholecystic disease in particular. As a result diagnostic errors occasionally are made and these patients are at times subjected to surgery for mild or non-existent biliary tract pathology. Such individuals generally survive the surgical attack, living miserably to advertise diligently the unsatisfactory results obtained. It may be added that allergic individuals, in the experience of Purks[3] frequently present bizarre and misleading cholecystograms.

Patients actually having definite biliary tract disease should be competently studied prior to operation. An especially careful survey should be made of the hepatic, renal, cardiac and pulmonary systems. Pulmonary ventilation on the threshold of inadequacy is quite likely to eventuate in postoperative pulmonary complications, the greatest single cause of postoperative mortality. With certain definite exceptions, concomitant cardiac lesions are not a barrier to surgery, provided compensation is, and has always been, present. A very careful study of the renal function should be made and if examination shows an impairment present, every intelligent effort should be made to improve the situation before operation. Especially is this true because of the possible occurrence of that rare and little understood but nonetheless devastating syndrome known as hepatorenal failure. There are, unfortunately, at present no entirely satisfactory tests for hepatic function. The avitaminosis of subclinical grade is of frequent occurrence is unquestionably true. Candidates for surgery in this field should preoperatively receive adequate fluids, glucose and vitamins. If jaundice is present, or if the hemorrhagic diathesis exists, vitamin K should be administered under appropriate conditions until laboratory investigations show the existing hypoprothrombinemia overcome.

The anesthetic of choice is that with which the anesthetist is most familiar and most expert in giving. Cyclopropane ought not be employed in the presence of a diminished coronary artery supply or if renal impairment is present. Under the latter circumstances, possibly spinal anesthesia with pentothal induction is superior. Nothing is more disturbing to the surgeon or more capable of provoking in an instant, damage at times well-nigh irreparable, than imperfect anesthesia or inadequate exposure.

At operation, the common duct should as a part of the operative procedure be invariably exposed, thereby making certain that it will escape injury. Failure to expose the common duct with blind clamping of the cystic artery and cystic duct is the almost invariable cause of common or hepatic duct injury, an occurrence which immediately converts the problem into one of major surgical magnitude.

The common duct should be explored if (1) there is a history of repeated attacks of jaundice or if at the time of surgery jaundice exists, (2) the gall bladder is shrunken or contains multiple small stones, (3) the common duct is enlarged or within its lumen is palpated a stone. If doubt as to the advisability of exploration exists, bile may be aspirated and examined as an additional aid in determining the wisdom of exploring the duct.

The various technical steps of operation on the gallbladder and extrahepatic ducts have been frequently and beautifully outlined by Allen, Cutler and Zollinger, Walters and many others. Each surgeon, as experience accumulates, adopts and makes his own, those suggestions of others that are found personally helpful. Excellent anesthesia, adequate exposure, an expert knowledge of local anatomy and a deliberate gentle attack on the structures involved are essential to safe surgery in this region. In a series of 1228 patients from the Massachusetts General Hospital, Allen[4] and his colleagues had the enviable mortality rate of 2.9 per cent following cholecystectomy and only 4.4 per cent following cholecystectomy with exploration of, and such surgical procedure as were required on, the common and hepatic ducts. Walters[5] and his associates report for the year 1937 a total of 930 operations on the gallbladder (including 182 procedures on the ducts) with a gross mortality of 1.8 per cent. These figures probably represent at present the irreducible mini-

TABLE I

MORTALITY RATES FOLLOWING SURGICAL PROCEDURES OF GALLBLADDER AND BILE DUCTS

Walters and associates—930 cases—including 182 procedures on duct			1.8%
Allen and associates—1228 cases	cholecystostomy, 82 cases	14.5%	total 1228 . . 4.2%
	cholecystectomy, 751 cases	2.9%	
	cholecystectomy with common duct procedures, 395 cases	4.4%	
Sanders—1000 cases			2.5%

* * * *

Macdonald—Collected series from small hospitals approved by American College Surgeons—
Average mortality rate 10 to 12 per cent
Highest mortality rate reported 25 to 30 per cent
Lowest mortality rate reported 3 to 5 per cent.

mum toward which all should strive. The mortality in general the country over is, as Macdonald has stated, undoubtedly far higher. (See Table I).

There exists at present decided difference in opinion as to the end results following removal of the gallbladder. In a previous communication, I have referred to the studies of Kunath[7] from the University of Iowa, who reports that in the non-calculous group 69 per cent of the patients were cured or improved and, in the calculous group, 84 per cent of the patients were cured or improved following operation. Many internists have written frequently and some caustically of the poor results following cholecystectomy, but have strikingly refrained from commenting on the results following "medical treatment" of genuine biliary tract disease. Finsterer[8] reports that of 89 such patients treated medically, 11 or 12.3 per cent died from gallbladder disease, 7 died from perforation of the gallbladder and 2 died from carcinoma of that organ. According to Finsterer, Tallquist studied 110 patients discharged as cured following medical treatment and of these 9 died within 6 years of gallbladder disease and 24 additional individuals following their "medical cure" ultimately were forced to seek relief through surgical means. Of the latter number four, or 16 2/3 per cent, died as a result of complications that resulted from their long delay in accepting surgery. The medical management of cholelithiasis is dangerous and probably with this form of therapeusis as many individuals will die as will be materially benefited. Further, persistence in delaying surgery results in increasing enormously the surgical hazard.

In a series of consecutive patients (previously reported[9]) upon whom operation was performed by me sufficiently long ago to evaluate the end results (Table II) it was found that in the non-calculous group 50 per cent of the patients were cured and an additional 36 per cent were definitely improved by cholecystectomy. In the calculous group 84 per cent were cured and an additional 6 per cent were improved following surgery. On my own service during the past five years exploration of the common duct has been done on slightly fewer than 20 per cent of all patients subjected to cholecystectomy and stones have been

TABLE II

END RESULTS FOLLOWING CHOLECYSTECTOMY(9)

Cholecystectomy	for non-calculous disease	cured 50 per cent
		improved 36 per cent
	for calculous disease	cured 84 per cent
		improved 6 per cent

Personal mortality in later series.

Cholecystectomy—no additional procedure other than appendectomy	2%
Cholecystectomy—with operative procedure on ducts	6.6%

recovered in more than 90 per cent of all such explorations. During this space of time comparatively few patients have been operated upon for non-calculous disease of the gallbladder. In this group there has been an operative mortality following simple cholecystectomy of 2 per cent. When it has been necessary to open the common duct the mortality rate has been 6.6 per cent. In the latter group, however, the survivors were cured in more than 95 per cent of all instances. It is significant that in the latter group essentially all of the patients were jaundiced at the time of surgery and extensive hepatic damage was not unusual.

CONCLUSIONS

The end results from cholecystectomy skillfully performed for actual cholecystic or extrahepatic duct disease are quite satisfactory and represent the only form of effective therapy at present available. Long delay in seeking surgical aid increases enormously the risks incident to surgery.

Patients who are allergic should be operated on only in the presence of advanced, symptom-producing disease. Patients with only mild physiological disturbances of the gallbladder, or non-existent cholecystic disease, should not be operated upon. These are the individuals who may anticipate a cure from proper medical treatment, especially if the gastroenterologist is also a tactful psychotherapist.

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DISCUSSION

DR. T. E. ROSS (Hattiesburg): Dr. Parsons' paper reviews the opinion of the best men of the country, as well as our own experience, and brings it up to the present time. We know very well from the success of the health measures after many years that the longevity now is much greater than it was in olden times. In 1850 about 2½% of the population reached the age of 65. In 1940 that has increased to 6½%. Knowing that the gallbladder trouble comes in people beyond the age of 40, makes us know now that people are living longer we are going to expect more gallbladder disease. It means that the present generation of surgeons is going to be confronted with more gallbladder disease than it was in the past, and that the next generation of surgeons is going to have vastly more work to do on the gallbladder tract. Gallbladder surgery is not so very old. Of course, many operations were done before 1882 in an experimental way, especially in draining the gallbladder, but even that only reached back 10 or 15 years prior to that time.

The indications for operation, especially in gallbladder disease, as Dr. Parsons has pointed out, must be very definite. We must know exactly what is occurring—what you are to expect from your operation. Operating on patients who have just a few of the symptoms is going to be a throwback on the doctor himself. Dr. Cutler and many of the other men wish to have their work thoroughly in hand, be definitely sure that they are going to have what they anticipate before they will operate. In cholecystectomy we find that the oral route is not satisfactory, and it takes the intravenous route to bring about the best results. Many men think that this can be almost perfect in 90% of the cases and base their diagnosis on it. In the actual work we find that a defining of the various structures to be gone into must be established very thoroughly. One examining the gallbladder and the gallbladder tract must know that stones are precipitated in a great percentage of cases, therefore when you examine the gall duct itself it is necessary not only to make out the cystic duct but also the common duct. That becomes more important especially when the time of operation comes.

We all do know that the number of stones is not palpated at all, therefore the history of the case will have a great deal to do with whether you are going to open the common duct. If the history points to previous trouble you will find that it is necessary to open the common duct whether you have actually felt the stone or not, to explore down towards the entrail, and see that it is entirely open. Cutler does that with a pliable probe and so far as I can see it is very good work. We have to be careful about the diagnoses, because we sometimes have cancer of this tract, and we have to know that our results are going to be poor in surgery of this type, though for the relief of the patient it is necessary to do some of this work, and therefore give the patient some relief.

DR. GEORGE WALLACE (Biloxi): The essayist in his usual brilliant and forceful style, has thoroughly covered the subject of indications for operations on the biliary tract. He has rightfully emphasized the fact that although cholecystography is a wonderful aid, a carefully taken history and proper evaluation of present symptoms, is of utmost importance if we expect to increase our percentage of cures and improvements following operations.

He agrees with Alvarez that probably the most reliable indications for operation are typical colics plus the type of flatulence which follows dinner and keeps the patient from getting to sleep.

Of timely interest is the mention of specific food sensitiveness or other allergic reactions as one of the pitfalls of diagnosis.

Dr. Frank Lahey, of Boston, describes three eras in the surgery of cholelithiasis. During the first era gallstones were removed by cholecystostomy. In the second era, not only the stones but the gallbladder itself was removed by cholecystectomy. And now we are in the third era, the removal of all stones, which of course, necessitates opening and exploration of the common and hepatic ducts. The criteria for exploration have been definitely outlined and the essayist apparently follows a conservative application of them.

That Dr. Parsons' results following surgery of the biliary tract are superior is indicated by his statistics. These results are due not alone to excellent technical ability, but probably more to the careful diagnosis, preparation and selection of cases which can expect to be benefited by surgical procedure.

DR. J. W. BARKSDALE (Jackson): I have been very much interested in the paper which Dr. Parsons has read, and was very much flattered last year when he sent me a copy for comment of a paper which he read before the Southern Surgical on the end results of cholecystectomy. I think he could draw some conclusions of benefit to himself and to others from his own paper. He gives his mortality rate in general at 2%, which is extremely low, and almost in the same breath he says where exploration is done his mortality has jumped to 6% plus.

I was present at the Southern Surgical meeting a few years ago in which there happened to be a triangular discussion between Dr. Chas. Mayo, Dr. Payne and Dr. Beaver. One of the things asked was what shall we do when we operate for cholecystectomy and find an apparently healthy gallbladder. No definite conclusion was reached, but the consensus of opinion was that as long as you are in there and some symptoms had been attributed to it, the best thing is to take it out. He then said it gives greater relief to the patient. Because you can find no definite pathology you conclude your diagnosis was erroneous. Dr. Beaver, whose mortality rate was not high, spoke of exploring the common duct, where we have traumatism to the patient, and Dr. Finney in discussing his paper, said Dr. Beaver's statement reminded him of a joke he had heard. A fellow was driving along and he was going at a high rate of speed, and the car jumped over a bridge and was completely demolished, and an old negro went over and saw a man emerging from the wreck, and he said, "Boss, you in that car?" and the man said, "Yes," and the old darkey said, "Is you hurt?" and he said, "No" and the darkey replied, "Well, all I got to say to you is you done used up most of your luck." And that is what I feel about too radical procedure with reference to the biliary tract. I agree with Dr. Wallace that the majority of stones cannot be found by digital exploration, and it is unquestionable that a great deal of unnecessary traumatism is done by introducing a probe or catheter into the common duct, and especially if the stones are actually in this region and overlooked, but I would rather have a 2% or less mortality with conservative treatment in which your patient is probably not going to have any further definite symptoms, than to have a 6% mortality and feel that I had done a pretty thorough piece of work and my patient had died notwithstanding. I think all of us who practice cholecystectomy should be conservative. There are so many instances in which it would be extremely unwise to remove the gallbladder in its entirety, where bleeding is apt to be troublesome and where the operative difficulties to be encountered might result badly to the patient.

Dr. V. B. Philpot (Houston): There are just two things I would like to mention in connection with this paper. One is the matter of hemorrhage in jaundice. I believe that this essayist said he had very little trouble with it. In the jaundiced cases in my little experience, I have had two deaths from bleeding following operation on a jaundiced patient. That was, of course, before we had the vitamin K. I do not know of any one more helpless than a bleeding patient. In one of these cases we went back in. There were big bleeding vessels, just a gentle even bleeding of the fascia and the skin, and all the blood transfusions were absolutely unable to control the hemorrhage, and the patient simply bled to death. This happened in my experience in two cases.

Another thing I would like to mention is the transverse incision for removal, or any work on the gallbladder. You can absolutely get to the operative field as well again as you can with the longitudinal incision, and the best part of it is when you go to close the wound it just naturally comes together. All of you know, especially you who do gallbladder work, that in closing the longitudinal incision it is very difficult, and we have cases of postoperative hernia.

Dr. Parsons (closing): I would like to thank the gentlemen who have discussed this paper. My experience has not been identical with Dr. Wallace, regarding giving the diet. I do want to refer to Dr. Philpot's comment in regard to bleeding in a jaundiced patient. I do not want to belittle this occurrence, but I have been interested in it and I think I have experienced far fewer cases than most individuals in this vicinity. I will state, however, that no patients are jaundiced at the time I operate on them. Previous to the active vitamin K we had very little postoperative bleeding; nevertheless Dr. Philpot's remarks are eminently correct. I have had no experience with postoperative hernia.

As to Dr. Barksdale's remarks, I have several things in mind. He is a master surgeon, with vast experience; furthermore he very kindly allowed me to review all his cases for the last 10 years, and I know he has a mortality rate of 1.1%; however, if the common duct is enlarged I think it ought to be explored. Now I do have a 6.6% mortality, and I had this in this last series following exploration of the common duct, but I explored in that series 20% of the common duct and 19% or 20% of all patients with gallbladder, and I encountered stones in the gall duct in almost each instance. I also believe if it had been opened and the stones removed there would have been trouble. Exploration certainly does increase the hazard, and in my hands it is a little more than trebled; however, if there are indications I believe it should be done and done at the time. A second operation on the common duct is exceedingly difficult. If the gallbladder has been removed and the patient drifts in with stones, or with trouble, even the exploration of the common duct is hazardous. In my own experience I have failed to find stones in the common duct by exploration. I have opened it and removed stones and have left stones. You may say this is poor surgery but it has happened to other people also.

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THE DOCTOR'S PLACE IN SELECTIVE SERVICE

Registration for selective service of all men of ages 21-35 will be held on October 16, 1940. Only those doctors within the age limits will be required to be registered and be classified by the local boards. There are a number of doctors of our state who do hold positions that will require them to devote some of their time to this work of selective service. Each county has one or more boards which have assigned to the board a physician. The duty of this physician is to examine each registrant who has been classified by the local board and presented to him for examination.

Since we have a large population in our state and our doctors are generally well acquainted with the population most of these men will be known to them. It is necessary that a thorough examination be done in order to eliminate the physically and mentally unfit. The present pension and retirement laws will apply to all officers and men who have served for thirty days in the army. So all physical defects must be noted on examinations. All men called under the selective service will again be examined on arrival at their concentration camp and if they can be culled out before they reach this point they will be saved time and the government will be saved a great expense.

I therefore plead with the medical profession of Mississippi to aid in doing a good job on this assignment. Medical advisory boards and appeal boards will be used if and when the time arrives for review of such cases and men have been selected for their ability and location in these districts to be served.

Let me request and urge that all doctors who are selected by the President or/and the Governor accept your responsibility and serve in the capacity you are requested to serve in. You are all well acquainted in your community and it is desirous that you aid in disseminating information concerning the selection of men in the age limit to serve in the military service for one year. A great many of you will be asked a great deal about this fair and impartial system of selecting personnel for military service and I ask that we may aid in this great task. —L. W. L.

Dr. E. L. Henderson, 1110 Francis Building, Louisville, member of the Council of the Southern Medical Association from Kentucky and General Chairman for our Louisville meeting, was elected President-Elect of the Kentucky State Medical Association at the closing session recently of the annual meeting held at Lexington. We congratulate Dr. Henderson on this, the highest honor in the gift of his state association. He is able, worthy, and well qualified for this high honor that carries many corresponding duties. The state association is fortunate to have Dr. Henderson as its leader.

There may be some irregularities in the application of per capita funds for the indigent sick. If so they should be ironed out. This plan is too important to be handicapped in any way. It is the greatest step forward that has ever been made in the world for carrying better medical service to the masses, to the indigent in the small town and rural community, at a reasonable cost. Now that we have about fifteen per cent less doctors in the state than we had fifty-four years ago, this plan that enables the small hospital to live and function is all the more important. The amount for per capita distribution is very small and the entire profession should co-operate conscientiously in its application for the benefit of the greatest number of urgently sick people. Unless the small hospital lives and serves, the time is near at hand when our indigent sick will be hauled hundreds of miles to the big centers, as our laundry is now, and returned. This super concentration of the medical profession, of industry, and business is leading to national weakness in our country as it has already done in Western Europe. It is going to take the same courage to meet this centralization problem as it will to win a war. The real hardship in serving the indigent patient falls largely upon the general practitioner who may drive twenty miles in the country to see the patient and bring him to the hospital without even any pay for the gasoline that is utilized in his car; or who may often spend ten to twenty dollars for x-ray, laboratory and other expense to make a correct diagnosis before operating. The doctor or the small hospital that has to bear this expense is carrying a burden that is back-bending. Malice or lack of forethought in the utilization of funds for the indigent would be most unfortunate, but the destruction of the proved system by magnifying apparent irregularities would be tragic.

The Tulane University of Louisiana School of Medicine, Department of Graduate Medicine, is offering an intensive graduate course of instruction on October 7-12 inclusive. These lectures are designed to cover the most practical subjects in the field of medicine and surgery. Seventy lectures are scheduled in the six-day course. The things that the general practitioner and the general surgeon need to know will be covered fully. The venerable and noted Dr. Rudolph Matas will discuss the surgery of aneurysm. It is always worth a trip to New Orleans to hear him discuss any subject. It is a wonderful service the Tulane Medical Schoolis offering the doctors of Louisiana and adjoining states and any others who may attend. An intensive course like this is the very best plan for the busy man to replenish his medical knowledge. Tulane certainly holds an inside track for practical service to the profession. We hope many doctors in Mississippi will be able to take advantage of this course.

The third quarterly meeting of the Northeast Mississippi Thirteen Counties Medical Society convened at Amory September 10. It was a good meeting. One noticeable feature of the program was the fact that all papers were presented by young men and the discussions, likewise, were by young men. This is encouraging since it demonstrates the fact that our young men are interested in organized medicine. Time was when it was difficult to interest recent graduates in the work of medical societies. While most papers and discussions by the recent graduate are largely academic or "textbook" in character, they serve a most admirable purpose, in that they emphasize the most recent claims and theories in medical teaching. Of course, time will prove most of these to be fallacious and misleading. This always has been true and always will be true. Yet the capable and progressive physician is deeply interested in all forward looking medical teaching. Only such a doctor who has had years of "trial and error" experience can bring a balanced judgment to bear on new claims and theories. Pope gave advice that all doctors well might heed and follow, when he said: "Be not the first by whom the new are tried, nor yet the last to lay the old aside." A fellow graduate who, perhaps, possessed the most brilliant mind and was the deepest thinker in our class, wrote me some years after graduation and said "medicine reminds me of children at play on the seashore who dig holes in the sand today to be filled with sand taken from other holes to be dug tomorrow." So, while our young men may be digging holes today, they can be trusted to fill these holes tomorrow. The guest speaker at this meeting, Dr. Thomas D. Moore, of Memphis, is a young (ish) man but he has had some years of very active private practice since the completion of a very fine training. His paper, on the occasion referred to, was excellent. Excellent in its simplicity and excellent in its practicallity. It is papers of this type and quality that make district medical meetings so worth whole to the busy practitioner.

We were greatly honored by the presence of Dr. Gus Street, our president-elect—also by that of good old jovial John Darrington. Both these fine men talked at the dinner hour. These talks made the occasion one long to be remembered. But the crowning glory of the occasion was the presence of the Auxiliary. There was a tinge of sorrow and regret, felt by all, because of the enforced absence of our own Dr. Walker, who had a disabling accident some weeks ago.

This writer attended the funeral and burial of Speaker Bankhead. Mr. Bankhead was one of the nation's most able and best loved men. He was also a personal friend of mine and had been for years. I doubt if the nation has ever had a funeral that was so largely attended. It was impossible to estimate (correctly) the thousands who were there. The crowd was made up with all classes—the great and lowly, the rich and the poor, the educated and illiterate—but they all loved Will Bankhead. They loved him because his was a lovable personality. They loved him because he loved them. I doubt if Will Bankhead, during sixty-six years of life, ever made an enemy. I am sure that he never consciously and purposely injured or offended any one. Men such as he are seldom seen. How badly we need them now! We can only take time off to speak a word of praise and drop a tear. The strenuous times in which we are living demand that we gird ourselves for the struggle that confronts us—that we look upward and press forward—that each of us may do his duty "though the heavens fall."

—G. S. B.

Since writing the above, in company with Dr. and Mrs. W. H. Anderson, my daughter and her husband, Frank Thomas, of Tupelo, I have visited one of the old heroes of Mississippi medicine, i.e., Dr. H. A. Gant and his wife, who now live in Columbia, Tenn. Dr. Gant is eighty-nine years old, yet his mind is as alert and his heart is as warm and responsive as if he were only half that old. They are a most delightful old couple and it is a fine thing to know them. Mississippi, the nation and the world owe Dr. Gant a debt of gratitude. When yellow fever last threatened Mississippi, Dr. Gant did yeoman's service in keeping it away from our midst. He, as a member of the Mississippi State Board of Health, worked in company with Dr. Carter who was loaned by the U. S. Public Health Department for months. He worked out a theory that accounted for the spread of the fever by the mosquito. He gave this theory to Dr. Carter and he in turn gave it to Reed and his co-workers who proved it to be true. Dr. Gant has in his possession letters from these doctors confirming this statement. A resolution is now pending in the Congress of the United States, that proposes to recognize Dr. Gant's service and it also provides a monthly payment of a small amount for the remainder of the doctor's life. This resolution should by all means be pushed through. Both our senators have promised to assist in its adoption when and if it reaches the upper house. I cannot refrain from saying that we were entertained, while in Columbia, by Dr. George Williamson, who is past president of the Tennessee Medical Association. Dr. Williamson is not only a brilliant member of our profession but he is one of the most charming gentlemen I have ever known. As a host he is superb. He has a camp or lodge two miles out that overlooks Duck River. This lodge is the last word for beauty and equipment. I acknowledge my indebtedness to Dr. Williamson for a most delightful day. I trust that some member (or members) in each district will urge his congressman to assist in the adoption of the resolution referred to above.

—G. S. B.

NOTICE

Do not fail to read the letter of Secretary Dye. If you have not filled out your blank sent you some time ago by the American Medical Association, do so at once. Let us give Dr. Dye and the national medical fraternity full and complete co-operation and let us not delay longer in doing so. We know the doctors of Mississippi are as patriotic as any who have ever lived in the world. They will do their part and more. But let us not be misunderstood. Find your blank and fill it out at once if possible. If you have misplaced it secure another.

W. H. Anderson, President,
Mississippi State Medical Association

With Our Doctors

DR. M. L. FLYNT

Dr. M. L. Flynt, of Meridian, one of our distinguished vice-presidents of the Mississippi State Medical Association.

Martin Luther Flynt, son of J. J. and Elizabeth (Lee) Flynt, was born February 24, 1880, in Mt. Olive, Mississippi.

Dr. Flynt received his academic education from the schools of the state, and after teaching for three years, he entered medical college and received his medical degree from the University of Tennessee in 1908. In the following year, he opened an office in Mt. Olive, his childhood home, where he practiced his profession until 1917 when he went to D'Lo, Mississippi, as superintendent of the Pineview General Hospital and chief surgeon for Finkbine Lumber Company. Here he did creditable work for twelve years. Resigning from his work, he with his family moved to Newton, Mississippi, where he and the late Dr. H. McMullan purchased the Newton Infirmary.

Dr. Flynt moved to Meridian, Mississippi, in January, 1933, where he continues to do general surgery and for six years has served as chief of the surgical staff of Riley's General Hospital.

On April 1, 1940, Dr. Flynt with his two sons, Dr. Rogers Mayo Flynt and Dr. M. L. Flynt, Jr., organized the Flynt Medical and Surgical Clinic located in Riley's General Hospital; however, Dr. M. L. Flynt, Jr., will not actively join the clinic until after January 1, 1941.

In 1936, Dr. Flynt was elected a graduate member of Theta Kappa Psi Medical Fraternity, and he had the peculiar honor of being initiated into Pi chapter at Tulane University by his youngest son, Dr. M. L. Flynt, Jr., assisted by the other chapter members. Dr. Flynt has done graduate work in Tulane University, New Orleans, Louisiana; New York Postgraduate School, and Mayo Clinic, Rochester, Minnesota. He holds memberships in the East Mississippi Medical Association, State, Southern, and American Medical Associations, American College of Surgeons, and Southeastern Surgical Congress.

Deaths

DR. JAMES G. POU

Dr. James G. Pou, of Courtland, who died Monday, Sept. 16, at the age of 91. He was born Jan. 4, 1849, at Pope, Miss. He graduated from what is now Tulane University Medical School in 1871, sixty-nine years ago.

He practiced until one year ago, making sixty-eight years of service to the people in the medical profession. He began the practice of medicine in Panola County west of Courtland and later moved to this town. Until his death we think Mississippi had two physicians past ninety; the other, Dr. Sparkman, 94, passed to his reward five days later. Dr. Pou is survived by three daughters: Mrs. M.E. Morehead, Jackson, Mrs. Arrah Lam and Mrs. Theo Mills, of Courtland, and one son, James Robert Pou, of Courtland.

There was kindness in his heart and professional integrity written in his face. He represents a type in the profession that is rapidly disappearing. This type has served humanity well. It understood human values and felt the responsibility of fashioning the well-rounded able and useful citizen. For service of this type we have not yet been fully appreciative.

* * * *

Dr. Levi Beeman Sparkman died at Cleveland, Saturday, Sept. 20, at the age of 94. He was the oldest citizen in Bolivar County and we think the oldest physician in the state. He was a native of Gates County, North Carolina, but moved to Leake County with his parents at two years of age. At the outbreak of the Civil War he was too young to enter the service, but at the age of sixteen in 1862, he joined troop B, 28th Mississippi Cavalry. He fought at Franklin, Tennessee, in Alabama and Georgia, and was engaged in a battle north of Atlanta when Sherman captured the city. Dr. Sparkman attended the Gettysburg Reunion in 1938, and was assistant surgeon-general, Mississippi Department, Confederate Veterans, with rank of colonel.

After the war he taught school for many years in Leake County before taking up medicine and graduating from the University of Tennessee in 1884. He then married Miss Ella Browne, of Winona. He began the practice of medicine in Cleveland the year the railroad was built through in 1886.

Last fall he attended the banquet at the Delta Medical Society at Cleveland and made a most interesting talk, although he retired from active practice in 1925.

He is survived by his wife and two sons. Attorney A. A. Sparkman, of Cleveland, and Dr. A. B. Sparkman, stationed with the Civilian Conservation Corps at Fort Oglethorpe, Ga.

In the Confederate soldier we find the finest type of citizenship the world has ever known.

* * * *

Mrs. Emma Williamson, of Milan, Tenn., died Sept. 23 at the age of 92. She was the widow of G. W. Williamson, and was a native of Gibson County. Mrs. Williamson was a member of the Methodist Church and a former president of the Woman's Christian Temperance Union. She leaves four sons and two daughters. Two sons, Drs. W. L. and S. B. Williamson, both live in Memphis. Dr. W. L. is a former president of the Tennessee State Medical Association and he served well as local chairman for the Southern Medical Association last fall. Both men are outstanding in scientific and in organized medicine.

News and Comments

Dr. William Boddy Battle, of Galloway, Tenn., a graduate of Louisville Medical School, seems to be going strong at the age of 84 after sixty-one years in practice. For twenty years he practiced on horseback. He still likes to farm, raise pecans and fish. He is living and enjoying life. He is made happy by doing things. We still say that if a man keeps mentally and physically fit that he is worth more to human society every day that he lives, even though he live to be a hundred years old.

Dr. R. B. Robins, of Camden, Ark., has been elected president of the Tri-State Medical Society, which will meet at Texarkana for the next annual session. Dr. Robins is widely and favorably known throughout the Mid-South. He is president of the council for Arkansas.

Dr. and Mrs. B. F. Turner, of Memphis, recently celebrated their fiftieth wedding anniversary. They invited in seventy-five of their friends of yesteryear to share the happiness of the day. This fine couple has been most prominent in the affairs of Memphis through the years. Dr. Turner has been well known in medical circles in the Mid-South. It is good to know him. Dr. and Mrs. Turner are still most valuable assets to human society.

The following completes the list of speakers for the Mid-South. You will see readily that the program is unusually good. Keep in mind the Mid-South in February at the Peabody Hotel, Memphis, down in Dixie. It is the best we have of this type and the type is fine.

Major-General James C. Magee, Surgeon-General U. S. Army, Washington, D. C.

Dr. Paul R. Cannon, Department of Pathology, University of Chicago, Chicago, Ill.

Dr. F. D. Murphy, Medicine, Milwaukee, Wis.

Dr. F. W. Schultz, Pediatrics, Chicago, Ill.

Kay Surgical, Inc., cordially invites you to visit their new display room of physician's treatment and consultation room furniture. Showing will be at your convenience. Free parking Medical Arts Building Garage, 246 Madison. Telephone 8-3107.

We greatly enjoyed the meeting of the Tri-County Medical Society at Monticello on September 10. The meeting was quite well attended. Dinner was served at 12:30 and a fine dinner it was, many good things with chicken pie a specialty. Monticello is one of the old towns of the state, having been honored as the capital of the state for a short while in the earlier days. It is the home of J. P. and T. F. Conn who have served well and long. It is good to know them. Dr. J. W. Wilson lives in Monticello. The other three doctors of the county are: Drs. S. E. Izard and D. T. Langston, of Newhebron, and B. S. Waller of Silver Creek. A fine half dozen men they are.

Dr. J. J. Pittman, of Tylertown, is president of the society and Dr. R. B. Zeller, of Hazlehurst, the efficient secretary. Routine business was transacted by the society and Dr. E. P. Robbins, of Brookhaven, read a fine paper on "Fractures of the Mandible." Two past presidents honored the meeting with their presence, Dr. W. H. Frizell, of Brookhaven, and Dr. W. L. Little, of Wesson. Dr. Frizzell is a member of the council and now serving as its secretary.

This society impressed us as having a membership of splendid ability and wide awake to the problems of medicine. They were mighty clever and cordial.

A WOMEN'S FIELD ARMY

American Society for the Control of Cancer

Emma Gay, M.D., State Commander

A group of women organized the Women's Field Army of the American Society for the Control of Cancer several years ago for the purpose of reducing the number of cancer deaths through a broad and comprehensive educational program for the prevention and control of this disease.

The program includes teaching the public to recognize the early signs of cancer and the significance of these signs; emphasizing the fact that many forms of cancer in the early stages when treated adequately are curable; teaching the public the value of and interesting the medical profession in periodic medical examinations of apparently well individuals; warning the public against quackery in the treatment of cancer.

In the nine districts established by the State Medical Association, vice-commanders are being appointed for active service in each district. Serving the Third District is Mrs. Sumpter Camp of Starkville; Sixth District, Miss Valeria Spinks, Meridian; Seventh District, Mrs. E. W. Harker of Hattiesburg, and Ninth District, Mrs. John McKenna of Gulfport. All districts will soon be represented.

Meeting on December 14, 1939, plans were formulated for organizing a State Executive Committee for the Control of Cancer to assist the Women's Field Army and co-operate in the educational campaign. Participating in the meeting were: Marjorie B. Illig, National Commander; Dr. J. W. Cox, Southern representative of the American Society for the Control of Cancer; Dr. J. P. Wall, President of the State Medical Association; Dr. Felix J. Underwood, Executive Officer, Mississippi State Board of Health; Dr. A. L. Gray, State Board of Health; Miss Susie V. Powell, corresponding secretary, State Federation of Women's Clubs; and Mrs. J. T. Calhoun, State Radio chairman of the Federation.

Members of the State Executive Committee now serving are: Dr. W. H. Anderson, Booneville, President, State Medical Association; Dr. J. P. Wall, (Ex Officio), Past President Mississippi State Medical Association; Dr. Karl Stingily, Meridian; Dr. Robert M. Moore, University; Dr. Leon S. Lippincott, Vicksburg; Dr. Emma Gay, Biloxi, State Commander; Dr. John C. Henthorne, Jackson, Secretary; Mrs. R. W. Adams, State College, Deputy Commander; Dr. Felix J. Underwood, Jackson, Chairman.

The first objective of the Women's Field Army was to contact the presidents of women's clubs and other organizations in the state.

Appointment of Mrs. R. W. Adams, State

College, as Deputy Commander was effected in the spring of last year. She has done splendid work in organizing three counties and enrolling over 70 members.

On March 22, at a meeting of the State Executive Committee for the Control of Cancer, Dr. Cox discussed the co-operation of the State Association and local medical societies. The importance of local medical societies having a local cancer committee to co-operate with the Army was stressed.

Two state, seven county, and twelve local meetings were held during the past year. The National Assembly meeting in Louisville, Ky., was also attended in February of this year.

In the educational campaign more than 20,000 leaflets were distributed, and 259 letters sent out. Talks were made by fifteen physicians and fifteen members of the Women's Field Army.

On May 22, an Army Unit was established in Jackson sponsored by the Business Girls Club of the Y.W.C.A. Outstanding work was done by Mrs. Gertrude M. Allen, city commander.

For three years, Mrs. E. W. Harker of Hattiesburg has successfully carried on the work in the Seventh District, with the assistance of club women and others.

Contacting every village in her territory, Jackson County's captain, Miss Frances Willis of Ocean Springs, has conducted four successful campaigns.

State Publicity Director, Miss Arka Fowler of Biloxi, has contacted every newspaper in the state. This resulted in the number of inches of newspaper publicity regarding cancer doubling that of last year. Newspaper and radio stations have given splendid co-operation.

The need for a Women's Field Army is evident. Over a period of twenty-five years, more than 25,000 Mississippians died of cancer. It is not surprising that the death rate is as low as it is. Mississippi is a relatively young state and the average age of its population is somewhat low. However, time is working against us. As the population grows older, we may expect a rising cancer death rate unless drastic measures are taken to deal with this serious problem.

Educational campaigns will focus attention on the need for increased facilities for early diagnosis and treatment of cancer. It has been demonstrated in several states that diagnostic service, x-ray, radium, surgical treatment and education will do much toward reducing cancer deaths and suffering.

Meeting in Jackson on Wednesday, September 18, the State Executive Committee for the Control of Cancer.

DR. EMMA GAY

Dr. Emma Gay, of Gulfport, State Commander of American Society for the Control of Cancer.

Dr. Gay is a native of Switzerland, but received her medical degree from Barnes Medical College, St. Louis, Mo., in 1905. She has been doing general practice in Gulfport and Biloxi since 1920, and is on the staff of King's Daughters Hospital at Gulfport. Dr. Gay is active in church affairs and as an all-round fine citizen. She has been working away on the cancer problem for a number of years and deserves much credit for what she has done and is still doing.

We hope that the State Medical Association and Woman's Auxiliary will lend Dr. Gay every assistance to make the campaign against cancer in Mississippi more successful this year than it has ever been before. Articles from time to time in the journal until our next state meeting will be read with interest.

DR. J. L. DUNAVANT

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Dr. J. L. Dunavant, of Ripley, Tenn., President of the Mid-South Postgraduate Medical Assembly. Dr. Dunavant is well trained in the field of medicine; he is well balanced and possesses medical integrity, along with his professional work he is always found in the front ranks as a good citizen. Read his message on the next meeting of the Mid-South:

"To The Profession

"I have just received from the secretary the completed list of guest speakers who will appear on the program of the Mid-South Postgraduate Medical Assembly, February 11-14, 1941.

"I think we are very fortunate in securing this particular list of speakers and I wish to say to the physicians of the South who have attended these meetings in the past to mark your calendars and make your arrangements to attend this meeting, to those who have never attended you don't know what you have been missing. If you will come and attend these scientific programs and the social functions, I will say to you that only sickness will keep you away in the future. I was unusually pleased in looking over the program to find that the Surgeon General of our Army will be with us for a paper. We should all put forth an effort to hear this outstanding speaker.

J. L. Dunavant, Ripley, Tenn.

DR. E. C. PARKER

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Dr. E. C. Parker, of Gulfport, president of the Gulf Coast Clinical Society, which will hold its annual meeting at the Markham Hotel, Gulfport, October 17 and 18. You will note the program. Dr. Parker is a past president of the Mississippi State Medical Association and one of Mississippi's most active men in the organization. He is the "surgical spirit" of the Gulf Coast, which is rapidly growing in favor as the mecca of medical associations. Dr. Parker is a member of the American College of Surgeons and his splendid wife is the able president of the Woman's Auxiliary.

PROGRAM OF THE GULF COAST CLINICAL SOCIETY

To be held at the Markham Hotel, Gulfport, Miss., on October 17 and 18, 1940.

October 17

3:00 p.m. "Cancer of the Lip"—Dr. Villery Blair, St. Louis, Mo.

3:30 p.m. Subject to be announced by Dr. Henry Boswell, Sanatorium, Miss.

4:00 p.m. "Endless Medical Cycle in Obstetrics"—Dr. James R. Garber, Birmingham, Ala.

4:30 p.m. "Surgical Management of Goiter, Recent Advancement"—Howard Mohorner, New Orleans, La.

5:00 p.m. "The Female Obstructing Prostate"—Dr. A. I. Folsom, Dallas, Texas.

6:30 P.M. Barbecue at Gulfport Yacht Club, given by Van Antwerp Aldridge Drug Company, Mobile, Ala.

OCTOBER 18

9:00 A.M. "Fracture of the Elbow and Ankle Joints"—Dr. Duncan Eve, Nashville, Tenn.

9:30 A.M. "Bacillary Dysentery Sulfapyridine Therapy," with lantern slides—Dr. Stewart Welch, Birmingham, Ala.

10:00 A.M. "Nutritive Disorders Seen in Office Practice"—Dr. James McLester, Birmingham, Ala.

10:30 A.M. "Pathology of Some Human Virus Diseases"—Dr. Ernest W. Goodpasture, Nashville, Tenn.

11:15 A.M. "Aviation Medicine in United States Navy"—Dr. Frederick Ceres, Captain in the U. S. Navy.

2:30 P.M. "The Experiences with Air Myelography in the Diagnosis of Protruded Intervertebral Disk"—Dr. John D. Camp, Mayo Clinic, Rochester, Minn.

3:00 P.M. "Sulfathiazole vs. Sulfapyridine in Pneumonia," with lantern slides—Dr. Stewart Welch, Birmingham, Ala.

3:30 P.M. "Pyelitis in Children"—Dr. A. I. Folsom, Dallas, Texas.

4:00 P.M. "Diagnosis and Treatment of Undulant Fever"—Dr. John B. Elliott, New Orleans, La.

4:30 P.M. "A Kodachrome Clinic of External Eye Diseases—Dr. Victor Smith, New Orleans, La.

5:00 P.M. "Fractures of the Hand"—Dr. Duncan Ede, Nashville, Tenn.

7:30 P.M. Annual banquet at the Hotel Markham Roof Garden, with Dr. F. G. DuBose, of Selma and Maplesville, Alabama, as the guest speaker of the evening, and with entertainment by the Gulf Park College students.

On Thursday, from 12 to 2:00 P.M., a round table conference and luncheon led by Dr. Duncan Eve, of Nashville, Tennessee. On Friday, October 18, from 12 to 2 P.M., round table conference on surgery led by Dr. J. Shelton Horseley, of Richmond, Virginia; also from 12 to 2 P.M., round table conference on medicine led by Dr. James McLester, of Birmingham.

TO THE DOCTORS OF MISSISSIPPI

The Southern Medical Association will hold its annual session in Louisville, Kentucky, November 12-15, inclusive. The Southern Medical is strictly a scientific organization. The medical fellowship is fine at these meetings. Louisville is an excellent city in which to hold a meeting of this type. Dr. Arthur McCormack is president this year. He is one of our ablest leaders in the field of public health. He is no stranger to the doctors of Mississippi and he will be delighted to see a good attendance from Mississippi. We wish to remind all members of the Southern to attend the meeting if possible for your own good and for the benefit of your clientele. And we wish to extend a most cordial welcome and invitation to any doctor in Mississippi who is not a member to attend this coming session and cast your lot with this fine organization.

Very sincerely,

W. H. ANDERSON, Councilor from Mississippi.

MEETING OF FIFTH COUNCILOR DISTRICT MEDICAL SOCIETY

American Legion Hut Camden, Arkansas, Thursday Evening, 7:00 P.M., Oct. 10, 1940.

Banquet at American Legion Hut for the doctors and their wives.

Woman's Auxiliary will also meet with Mrs. Alfred Hathcock, president of the Woman's Auxiliary of the Arkansas Medical Society as the guest of honor.

PROGRAM

"Duodenal Ulcer"—Dr. A. Street, Vicksburg, Mississippi, president-elect Mississippi State Medical Association.

"A Doctor's Duty to Himself, to His Fellow-Doctor and to the Public"—Dr. W. H. Anderson, president, Mississippi State Medical Association.

OFFICERS

President, Dr. D. E. White, El Dorado, Ark.; Vice-President, Dr. J. B. Jameson, Camden, Ark.; Secretary Dr. J. L. Hope, Warren Ark; Councilor, Dr. R. B. Robins, Camden, Ark.

DELTA MEDICAL SOCIETY

Thirty-seventh annual meeting, New Honey Theatre, 2:00 P.M., October 9, 1940, Indianola, Mississippi.

Call to Order.

Invocation—Rev. Cliff Newman, Pastor, Methodist Church.

Address of Welcome—Mayor Lyons.

Announcements:

Business Session.

Social Session—7:30 P.M.

Barbecue.
Country Club.

Scientific Session

"Pyelitis in Children"—C. W. Patterson, M. D., Rosedale. Discussion opened by R. E. Wilson, M.D.

"Tularemia"—T. J. Barkley, M.D., Isola. Discussion opened by W. S. Taylor, M.D.

"Endometriosis with Clinical Report"—G. Y. Gillespie, M.D., Greenwood. Discussion opened by F. M. Acree, M.D.

"Treatment of Chronic Leg Ulcer"—G. C. Carlson, M.D., Moorhead. Discussion opened by W. A. Hull, M.D.

"Open and Closed Treatment of Compound Fractures," Pictures—Charles Berry, M.D., Greenville. Discussion opened by J. G. Peeler, M.D.

Guest Essayist

"The Doctor's Responsibility"—H. T. Smith, M.D., McGehee, Arkansas.

Officers

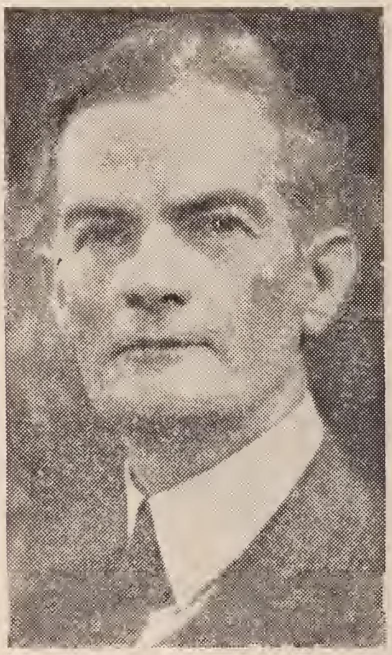
President, B. H. Higdon, M.D.; President-Elect, H. A. Gamble, M.D.; Secretary and Treasurer, F. M. Acree, M.D.

Vice-Presidents: W. W. Hall, M.D., Bolivar County; J. W. Barkley, M.D., Humphreys County; J. C. Adams, M.D., Leflore County; R. C. Smith, M.D., Sunflower County; J. G. Archer, M.D., Washington County.

DR. LAWRENCE W. LONG

Dr. Lawrence W. Long, of Jackson, who was recently made Medical Inspector for the Draft under Governor Johnson's supervision for the state of Mississippi. Dr. Long is very active in organized medicine in Mississippi. We feel sure that the Governor made a wise selection in him.

GOVERNOR PAUL JOHNSON



Read carefully Governor Johnson's message on the front cover. Let us give him full cooperation.

PLEASE SEND QUESTIONNAIRE

Clarksdale, Miss.
September 27, 1940

Dear Secretary:

Some weeks ago I addressed a letter to all county secretaries in the state asking that they see that the members of their society answer the questionnaire sent out by the American Medical Association, looking to "Medical Preparedness."

I was rather surprised last week in Chicago to learn from the Committee on Medical Preparedness that the Mississippi physicians had not answered the questionnaire sent them. In fact, only 40% of the questionnaires had been answered and returned. This was very embarrassing to me while attending this meeting, and I was the butt of much ridicule.

I am asking you again to contact every member of your society and if he has not sent in his questionnaire ask him to do so at once. If he has lost the questionnaire blank he can get one by writing to the American Medical

Association, 535 North Dearborn St., Chicago, Illinois.

This is a very important move of the American Medical Association and was made at the instigation of the Surgeon General of the United States Army. Several states are already approximating 100% replies and it is the purpose of the American Medical Association to get 100% replies from every state, even though more drastic measures have to be adopted.

This is in no wise a draft, but is just a census of the medical situation in each state. Please attend to this at once so that Mississippi may no longer be regarded as a laggard.

Sincerely yours,
T. M. Dye, Secretary, Mississippi
State Medical Association.

DR. AND MRS. H. A. GANT

Dr. and Mrs. H. A. Gant, of Columbia, Tenn., who spent thirty-one years of the most active part of their lives in Mississippi making our state and our nation safe against the dreaded disease of yellow fever by Dr. Gant's able and untiring efforts in observation and logical and analytical thinking. It took a group of men working together to establish the mode of transmission of yellow fever and we doubt if any one person deserves any more credit than does Dr. Gant. Dr. Gant is now in his eighty-ninth year. He is still wide awake to medical progress and so is his noble wife who has been his faithful helper through the years. It is an inspiration to see them and talk with them, to feel the power of their greatness, and to catch the inspiration that comes from their devotion to each other. Dr. and Mrs. Gant are living today in the hearts of the doctors of Mississippi and every person in the yellow fever area should be very grateful to them for their service. You will read with interest the following sketch of Dr. Gant and also the religious argument that he wrote some time ago.

BURROUGHS VERSUS GOD

(The following article was written by Dr. H. A Gant of Columbia, Tenn., for many years a valiant leader in medicine in Mississippi. Although it was written many years ago it is now timely and you will read it with interest and with profit. Speaking in terms of Columbus' discovery of America, he was with the crew who found a new world, America, and he was right by the side of the man who first saw land. Dr. Gant was on the front seat with the crew who discovered that the mosquito transmits yellow fever.

The proper attitude toward the Bible would help the medical profession to solve its problems. The same Person who created the laws of science which yet hold a thousand mysteries undreamed of, inspired the written Word.—Ed.)

The book of John Burroughs, the great naturalist recently deceased, might be described as stated in the preface, "as an attempt to justify the ways of God to man on natural grounds." The title of the book is Accepting the Universe, which might very well be amended to express more fully the apparent purpose of the writer to Accepting the Universe With God Left Out and 'Nature God' Substituted.

The task set himself is impossible of performance; the ways of God towards man can not be justified on natural grounds alone. How can He be justified whose existence is denied? But there is a God the Creator and Supreme Ruler the Preserver and Savior of the universe who has revealed himself both in His Word and in nature who is a spirit and who is Love Infinite. His ways need no justification but are made plain to whoever will seek Him honestly, humbly and not in a fault-finding spirit but with an open unbiased mind. Mr. Burroughs declared himself a Pantheist, thus adopting and attempting to make workable in his scheme of the universe the old, old doctrine of the Hindus as set forth in their scriptures, the Vedas, 100 years before Christ and introduced into Greece by Parmenides 590 B.C. but not generally accepted by the philosophers of that day, although he taught it in his book on "Nature" and was followed by Zeno and a few other thinkers like Xenophanes who approached the doctrine very closely. Plato and Aristotle did not subscribe to it. Socrates had real faith in the one only "supreme reason," the source and the end of all things.

In Europe it was taught by Descartes and Spinoza its most able representatives in the seventeenth century. It is hoary with antiquity, has been threshed out many times by the ablest minds and does not give any indications of survival. Pantheism is defined as "the doctrine that the universe taken as a whole or conceived of as a whole is, God; the doctrine that there is no God but the combined forces and laws which are manifested in the existing universe."

To the average mind this is an impossible conception. It means the great universe, greater perhaps than any scientist has yet conceived, the most stupendous machinery ever imagined, running millions of years without an intelligent director to look after it or to take any interest in it. Does an engine run without an engineer or the airplane without the flier? Does not the existence of the machine prove the maker? Natural law you say, but who made the laws? Does not their existence prove the lawmaker or the lawgiver? There must be intelligence, mind. The first Cause back of everything is God. Who is God? A spirit. Can a spirit have form? Yes. Now we get into the realm of the infinite. The finite mind can not define or fully comprehend infinity and it is best for us that it can not. If it could we would be equal with God and the universe would be filled with Gods and our earth inhabited by God's equals which evidently is not according to His plan just yet. We can more easily comprehend a personal God who is a spirit and has a spirit form after whose image man was created than we can a "Nature God," or "Natural Providence" as Mr. Burrough's man-made God is called, without any conceivable form or intelligence.

There are few words in our language with more different meaning or wider application but it comes nearer than any other expressing our idea of the supreme being. Locke says, "Spirit is a substance wherein thinking, knowing, doubting and a power of moving do subsist." The Bible thousands of years ago said, "There is a Spirit in man; and the inspiration of the Almighty giveth them understanding."

The fight between the materialists and spiritualists was a long and bitter one in ancient philosophy; one holding to the theory that everything in the universe was material, the other as tenaciously holding that everything was spirit or mind. "No mind, no matter; no matter, no mind." The Christian Science followers hold that nothing is material. The Pantheists hold that everything is material. Mr. Burroughs was of this school and was out of his realm of thought when he tried to explain spiritual things, for it is not known whether the substance of a spirit is material or not. He bases all his deductions on evolution and evolution so far has not applied to spiritual beings. Even in regard to matter it has been much misunderstood and misapplied and has been the cause of the greatest disasters moral and physical ever before known in the history of the world. The Great War was the logical result of the misapplication of the Darwinian theory or hypothesis, for it is only an hypothesis and as a working hypothesis it was the most epochal thought of the 19th century and has been equally useful in other cognate sciences. This much is admitted by all intelligent people but the enthusiastic followers of Darwin claimed that evolution accounted for the origin of life on the earth. This was and is a very popular belief but it is more than was ever claimed by Darwin and has never been established. "The missing link" is still missing and will never be found for only God can create anything. The origin of species does not mean the creation of species. Natural selection means the classification of species already created and the study of their development with a view if possible of getting a new species. Burbanks has developed the logan berry, a new variety, but a berry still, very much like the blackberry and raspberry from which it is derived. It is a variant and not a new species. In the animal kingdom the mule is a hybrid, a variant not a new species. The doctrine of the "fixity of species" by that great scientist Cuvier has never been overthrown. Hertwig, professor of zoology at the University of Munich, himself a great believer in evolution, says, as translated by J. S. Kingsley, professor of zoology at Tufts College, "That this capacity for variation is a principle which explains to us the origin of the animal world, needs further demonstration."

That there can be no life without pre-existing life has been fully demonstrated, "Omne vivum ex vivo," has been the contention of the deepest and best thinkers for centuries and has not been successfully controverted. The best the evolutionists can do is to trace life back to a one-cell organism but what then? Who made this unicellular being or organism? There is no such thing as spontaneous generation and can not be. The mineral, vegetable, animal and spiritual kingdoms are distinct divisions and the highest of these is the spiritual, to which man belongs, having dominion over the rest. The "survival of the fittest," an expression adopted by Spencer to convey the same idea as "the struggle for existence" which captured the world and, if made to include spiritual man as it properly should, then it is in direct accord with the teachings of the Bible, for the fittest to live spiritually are those who are most in harmony with the environment of God, and His environment is Love, Mercy, Justice, Peace, Order, Wisdom, Power and Glory. He is Life Eternal.

There is immensely more satisfactory evidence of just such a God as described in the Bible than there is of a Godless universe. In fact there is no evidence that the universe and man came into existence in any way other than as described in the Bible. Bald, bold, dogmatic statements do not convince the thinking mind. And denials without evidence, uncalled for and unprovoked little mean slings at the Bible side of the question (if there were any question) constitute the major part of this surprisingly weak effort to revivify this old threadbare doctrine. Burroughs need not worry himself about the Bible doctrines being out of date; they are up to date and are for all time and hold the key to the solution of all problems that affect the human race both for the now and the future. He might as well try to batter down the rock of Gibraltar, as Dr. Palmer used to say, by casting rose leaves against it as to try to destroy the faith of humanity in the Bible and the Christian religion because that faith is founded on The Rock of Ages and the combined efforts of the world cannot destroy it notwithstanding his ipse dixit that it has passed its day of usefulness. The world has been trying its best to destroy it for thousands of years and will keep on trying to kill it but without success. Notwithstanding the statement of H. G. Wells that the world needs a new up-to-date Bible and Mr. Burroughs thinks it should have a new religion even if it be one like Pantheism that has been tried out and failed to satisfy the needs of humanity, it is apparent to the greatest thinkers of the present hour that what the world needs is a fuller knowledge of the same old Bible and a more active and zealous faith in and practice of the principles taught by Christ. The world was led away from these principles by the teachers of the German universities and such men as Trietzsche, Neitzsche and Bernhardi and other radical evolutionists of the German universities who supplanted faith in the Bible by "Kulture" and militarism. Evolution as applied to the spiritual life has thus been tried out and failed. Germany forsook the God of her fathers and lost her spiritual ideals —her soul. It may be the world has been set back a thousand years in its moral development but God's good purposes for the good of man will be ultimately worked out. His plans may be interfered with and interrupted by man but his purposes can not be thwarted.

Is it not strange what credence people give to anything written by a scientist even along lines outside his field of investigation? They make a fetish of him and bow down and worship him without thinking that he knows as little (or less) about things outside his special field of thought as any one else.

The deductions of science are sometimes wrong and often it is many years before the errors are corrected. Dalton's atomic theory in chemistry was accepted as law in that science and was a good working hypothesis but the discovery of radium has proved that it was wrong since the atom is not now accepted as the smallest particle of matter conceivable that can enter into combination. The entire nomenclature and working formulae of chemistry therefore are now undergoing a rigid revision.

In physics it was formerly taught that matter had only three dimensions, and now comes Einstein with a new hypothesis that time must be taken as a fourth dimension—hence his theory of relativity which will probably upset all former ideas of gravity.

The mathematicians have always taught that two parallel lines could never touch no matter if extended throughout infinity. Einstein claims this is a mistake. His theory also explains a certain deviation in the orbit of Mercury which the astronomers have heretofore been unable satisfactorily to explain. Even mathematicians and astronomers as well as biologists and evolutionists work on hypotheses that may be wrong.

Mr. Edison was a great scientist and knew more about electricity than anyone we know, but may not have known anything more about communicating with the dead than you and I and yet he wrote some outstanding articles, and some people believe all he had to say.

Mr. Burroughs was one of the greatest naturalists and believed in nature and knew more about plants, bugs and reptiles and animals than any other man in our age, but it does not appear that he ever studied the Bible. He was a materialist of the rankest sort and anything of a spiritual character did not appeal to him. He expressly says he did not recognize his duty to God and probably never had a vision above a potato bug and yet he goes into the spiritual field and attempts from a purely materialistic standpoint to criticise God and God's ways toward man. He knew a great deal about nature but never knew God. Poor old man; what a pity he did not acknowledge His Creator and learn "to look through nature up to nature's God."

"The heavens declare the glory of God and the firmament showeth His handiwork "

MAN VERSUS YELLOW JACK

Columbia Physician Honored for Work He Did in Helping To Overcome Dread Malady

By Frances M. Stephenson

Some are born great, some achieve greatness, and some have the privilege of living across the street from greatness. Dr. Harris Allen Gant, my neighbor, is so very modest about his accomplishments that, although I frequently see his tall figure walking past my house and I often pass his house to see him reading his paper on the porch, it was with the greatest difficulty that I persuaded him to talk of his illustrious contributions to science.

Medical men customarily have a standard of ethics, puzzling for the layman to grasp, and Dr. Gant is one to adhere strictly to the letter of all its tenets. For him, the public eye has always been something to shun. However, having been assured from so many eminent and authoritative sources that his part in the war against yellow fever is too important historically to be kept private any longer, he was recently induced to write his personal recollections and experiences. Under the title "Yellow Fever in Mississippi 1878-1905," this work was published serially, just completed, in the Mississippi Doctor. Negotiations are under way for its publication in book form.

The story of how he came to undertake this autobiography is interesting and unusual. In 1930 a Nashville paper published a paragraph to the effect that Dr. E. L. Bishop, Commissioner of the State Board of Health, wished to get in touch with anyone who had yellow fever as far back as twenty-five years previous. Dr. Gant had gone through a bad case of this dread disease in 1878, during the epidemic in Mississippi, where he made his home at that time.

Purely with a view to forwarding the researches of science, he wrote to Dr. Bishop of this fact, inclosing a letter from Dr. H. R. Carter, who was in 1898 associated with him, in Taylor and Orwood, Miss., and who was then the representative of the Government in charge of epidemics in the South.

Quoting from Dr. Carter's letter: "Remember the work at Taylor and Orwood was the necessary foundation of the knowledge of the mosquito conveyance of yellow fever? . . . Your work, not less than mine or Reed's, because unless the people had been handled the right way no trustworthy data could have been obtained from them. This was your work, mine to obtain the data and correlate it . . . Reed's to apply the experimental test to the deductions. Our lives have not been wasted, old friend . . ."

No, not wasted.

Dr. Bishop showed this letter to Dr. George Ramsey, representative of the Rockefeller Foundation, who called to see Dr. Gant, and took a specimen of his blood, which he forwarded to Dr. W. A. Sawyer, president of the Division of Infectious and Contagious Diseases of Rockefeller Foundation. So, in New York, the serum made from the man who had had yellow fever nearly sixty years ago was used in experiments on Macasus Rhesus monkeys, and was found to immunize them completely against yellow fever.

All of these happenings induced Dr. Gant to make permanent his recollections in the form of an autobiography. For this resolution, future generations of medicine will be grateful.

Dr. Gant was born in Columbia, Tenn., March 28, 1852, and at the age of three went with his family to live in Oxford, Miss., so that now both Tennessee and Mississippi claim him as a citizen. He remembers seeing, as a child, the depredations of General Grant's army, marching on Vicksburg, remembers the hardships of the post-war period, remembers the struggle of his impoverished family to exist through that dramatic but forlorn time. This early introduction to the uncertainties and vicissitudes of living may have inculcated in him that patience combined with daring which carried him gallantly through the terrifying days of the yellow fever scourge.

After preparatory schooling in Oxford, he went to the University of Mississippi, but for financial reasons had to give up his education temporarily in his junior year. For a time he taught in the Mississippi public schools, newly established, then took a position in a drug store, and read medicine at night. Even at that early age he had determined on what his life work should be.

In the Fall of 1874 he entered Vanderbilt University, which had that year consolidated with the University of Nashville. Here, he was by way of becoming discouraged by lack of funds, until he won the medal in materia medica and therapeutics. From that time until this, nothing has discouraged him.

With the help of a loan from his brother, older than he, the young man pursued his studies summer and winter, and in 1876 was graduated from the University of Pennsylvania, and hung out his shingle in Water Valley, Miss. He made it his principle to take all calls that came, whether from the home of the affluent or the hovel of the destitute, whether in rain, snow, sleet or storm.

Into a land without screens or adequate sanitation came the devastating yellow fever epidemic of 1878. The ravages of yellow fever were all too well known but no method had been discovered to prevent it. The only hope lay in flight.

Panic stricken refugees fled, they cared not whither. Many of the doctors left, for everyone thought that a cooler climate might ward off from them the danger. However, there were a few men who placed honor above safety, one of whom was Dr. Gant. He stuck to his post.

This disease, of a particularly virulent type, took a toll of 5,500 from Memphis' population and cost the lives of 20,000 throughout the South. No one knew exactly how, but it spread, working rapidly. The patient either lived or died in a period between a week and ten days.

In common with so many of his fellow Southerners, Dr. Gant fell ill. A doctor himself, he did not need another opinion when he saw the dread black vomit. It was yellow fever.

The other young men in the rooming house hastily left it, and only Dr. Gant's brother would nurse him. To this brother he not only owed his education, but now his life, for he recovered.

It was probably the most malignant, widespread and fatal epidemic that ever visited the United States. The citizens of Water Valley in deep appreciation to Dr. Gant, who had stayed loyally by them through their great trial, made him many handsome presents, and will never forget him. A handsome gold watch and chain given him at this time is still his most treasured possession. And their gratitude was not short lived, for where his practice had been scattering and poor, it now blossomed out, and all wanted the advice of the man who had so proved himself.

To his great satisfaction, he was soon able to repay his brother the small loan which had enabled him to finish college, but for saving his life, nothing could repay. And if he felt thus toward his brother, so in a thousandfold felt his fellow citizens toward him. All possible honor was his, and he was made a health officer of Yalobusha County, and then a member of the State Board of Health.

The yellow fever of 1878 finally died out of its own accord, and not until 1897 did it return with any virulence, when the whole dire situation was opened up again.

This happened by a strange means—a shipment of bananas was received from New Orleans. A Mrs. Gray, living in Taylor, ten miles north of Water Valley, bought a bunch of these bananas, and hung them up in her house, to the great enjoyment of her children. Soon these children fell ill, also Dr. Gray, her husband, who finally succumbed to what the doctors dubiously called pernicious malaria.

A little later, Dr. Gant, as health officer, was called to Orwood, ten miles west of Taylor where four cases of the same peculiar fever had broken out. This was the old home of Dr. Gray.

On careful examination, Dr. Gant was convinced that all had yellow fever, but he told the family he would return next day and make a positive decision. So far, nothing had been said about yellow fever, and he hesitated to make the diagnosis, for it was so important. Then, too, Orwood did not lie on a railroad, and yellow fever was thought to follow lines of travel.

In spite of this, however, Gant announced that it was yellow fever.

Upon this, the whole state was thrown into a panic, and soon was quarantined by all the surrounding states. At that not so very remote date, diseases were supposed to spread by means of certain mysterious "formites," clinging invisibly to clothing, furniture and such objects. To fight such an intangible menace must have been a battle against overwhelming odds.

The State Board of Health took charge in a systematic way. Dr. Carter had been studying the disease for thirteen years. At his suggestion, Dr. Gant kept an accurate record of the length of time required by the disease to develop in a person after being exposed. This was the first progressive step in what was to be a victorious war on yellow fever. From Dr. Gant's data Dr. Carter made observations, the importance of which can scarcely be overestimated, for so developed the theory of the extrinsic incubation period of yellow fever. These discoveries antidated by two years, and made possible those for which Walter Reed is now known the world over.

In 1900, the army commission, headed by Walter Reed, went to Havana to investigate the etiology of yellow fever. At first they were unable to establish the transmission by mosquito because they allow the mosquito no period for extrinsic incubation. A mosquito, having bitten a yellow fever case, then immediately biting a well person, did not cause the fever in the well person. Imagine the state of mind of a man, after having keyed himself up to become an object of laboratory experiment, at the risk of his life, waiting for the disease to develop, and nothing happening!

The efforts of this expedition to understand the transmission of yellow fever were futile, until they obtained the statistics compiled by Dr. Carter, based on Dr. Gant's data. From these sources they learned that it takes four and one-half days for the disease to develop thoroughly in a person, and applied these principles to the mosquito which requires from twelve to twenty days to become infective. Working along these lines, several of the company took the disease, and made the voluntary sacrifice of life to further the sacred cause of medicine.

The far reaching importance of their conclusion is now a matter of common knowledge, for by the effort and combined knowledge of these courageous and able men, yellow fever was brought under control and finally stamped out.

There has been no serious outbreak of yellow fever in the United States since 1905, and, in fact, very little in the world, though now and then an isolated case is heard of in Western Africa or Brazil. People have learned to screen their houses, and to reduce to a minimum possible breeding places for mosquitoes.

This spring, Dr. F. J. Underwood, executive officer of the State Board of Health of Mississippi, invited Dr. Gant to attend a meeting of his association at Jackson and placed him on the program. Dr. Gant took as his subject the story of the extrinsic incubation period of yellow fever, as established by Carter, himself and his associates in Taylor and Orwood in 1898. The doctors assembled to hear this lecture had the thrill of listening to the tale of the pioneering exploits of one of the men responsible for the almost complete extermination from the world from the scourge of yellow fever.

While there, Dr. Gant made a talk at a banquet in celebration of the sixtieth anniversary of the organization of the State Board of Health of Mississippi, of which he was a member for twelve years, and president from 1900 to 1904.

On this trip it was his very great pleasure to meet again his brother, who was attending a Confederate Union, in session at the same time.

Dr. Gant retired in 1908, and has been living since that time in Columbia, which is proud to be his birthplace and counts him an illustrious citizen. This trip to Mississippi was the occasion of the renewal of many old friendships with those whom he had not seen in almost thirty years. Honors and adulations were showered upon him wherever he went, for he is justly prominent in the medical history of that state. But perhaps he appreciated more than all the public demonstration, those words of gratitude, those protestations of undying regard tendered him by men and women by whom he had stood in their hour of extreme peril, men and women who know and love the real Dr. Gant, not the famous one.

Copied by permission from the Nashville Banner Magazine, August 1, 1937.

REQUEST BY THE PRESIDENT

The House of Delegates at the last meeting in Jackson last May endorsed a resolution introduced by Dr. Dan J. Williams of Gulfport commending the work of the Mississippi Division of the Women's Field Army of The American Society for the Control of Cancer and pledging the cooperation of the state association. As president of the association we wish to carry out the wishes of the house of delegates in every way possible. We believe there is much that can be done through this organization by arousing the profession to keener activities and by educating the public.

We want to ask each county and each district society to send us the name of your president and secretary at present and as soon as the officers are elected, for next year to please let us have them also. We want to further request that each county society and each district society designate three of their members as a cancer committee to serve in any way deemed advisable by Dr. Emma Gay of Gulfport, State Commander of the American Society for the Control of Cancer.

We suggest that each district committee be composed of three men who will be willing to inform themselves under the direction of Dr. Gay and to make talks when called upon by her organization.

Prompt attention to this matter by the societies will be greatly appreciated.

W. H. ANDERSON, President
Mississippi State Medical Ass'n.

TUBERCULOSIS ABSTRACT

EXERCISE IN TUBERCULOSIS

There is still a wide divergence of opinion among tuberculosis physicians concerning exercise in the treatment of tuberculosis. Aside from the judgment of the physician, the time to start exercise and the amount to be taken are dictated by the physical makeup of the sanatorium and by the size of the nursing staff. For example, in the cottage type of sanatorium, patients get more exercise going to meals than in a sanatorium built entirely under one roof; and where there is a shortage of nurses the patients do more for themselves.

Tuberculosis specialists differ in their views as to what constitutes exercise. Those who believe in strict bed rest will consider every activity of the patient short of resting quietly in bed as exercise. Sitting up in bed, writing letters, drawing, knitting and so on are exercise by that standard. Others hold that only such activities carried on after the patient is clothed and ready for outdoor walks, merit the term exercise. The majority steer a middle course between those two extreme views.

Patients do not react alike to the same amount of exercise; mild exercise for one patient may be strenuous exercise for another even though the patients have a comparable disease. In general, any activity which produces severe fatigue should be halted, for fatigue is a symptom of overstrain.

Exercise should be prescribed and graduated according to the individual need of the patient. Malaise, fever, rapid pulse and marked fatigue are constitutional symptoms indicating a toxic systemic reaction, and any patient with these symptoms should be in bed. Regardless of the x-rays, the sedimentation rate or the sputum contents, constitutional symptoms must be treated by strict bed rest. To treat every patient regardless of symptoms, or lack of symptoms, with strict bed rest is extreme.

Apparently comparable cases of tuberculosis, which have practically the same amount of disease by x-ray, seldom have the same symptoms to the same degree. One must distinguish between local and constitutional symptoms in tuberculosis just as one must distinguish between local and constitutional symptoms if one treats a boil. A boil produces pain, swelling, redness and local heat and can be treated as a local affair, usually. But if the patient develops malaise, fever, and loss of appetite the boil ceases to be a local affection and the constitutional symptoms demand the patient to be put to bed and adequate systemic measures be used. The same holds true in tuberculosis even though many sanatoria have lost sight of such a fact. Local symptoms and constitutional symptoms have a far different meaning, and any patient with constitutional symptoms should be on fairly strict bed rest until all constitutional signs and symptoms subside and the disease becomes stabilized. After that he may be allowed a graduated amount of exercise if other signs are favorable.

Patients with minimal disease and positive sputum whether they have cough or not should be in bed also. There are a few patients who raise positive sputum without coughing. They believe that the sputum raised is not sputum in the true sense unless they cough it up and many must be coached in order to produce a specimen of sputum for examination without undergoing gastric lavage. Exercise in such patients should not be permitted until a sufficient period of bed rest or a collapse measure in addition to bed rest has converted the sputum and given the disease time to become stabilized.

No patient with active tuberculosis regardless of the stage of the disease or the presence or absence of symptoms should be allowed to indulge in any activity to the point of fatigue.

In most sanatoria the amount of exercise is regulated but when the patient leaves exercise cannot well be controlled. Especially in those instances where the economic status requires the patient to work, a rehabilitation program covering a period of months is absolutely necessary. Arrested tuberculosis is not healed nor cured tuberculosis, yet patients are discharged from sanatoria as arrested cases whose only alternative is to go to work in order to support themselves. The greatest necessity in the field of tuberculosis at the present time is a rehabilitation program.

A few chest specialists allow their patients an amount of exercise almost equivalent to the regimen of one on vacation. Such physicians seem to feel that the mental state of the patient is so important in the healing of tuberculosis that a great deal of activity is justifiable in order to keep the patient from becoming introspective. The relationship between a patient's immunological reaction to disease and his introspectiveness has never been proved and has no factual basis. Rest will heal tuberculosis. A healthy mental outlook without physical rest is not sufficient for the healing of tuberculosis.

Another theory of the exercise extremists is a fatalistic one which also calls on biological immunity and resistance for support but here again the facts do not support the theory. The extremists justify the exercise in the mistaken belief that a patient with average resistance will heal his tuberculosis even on exercise while no amount of bed rest will cure a patient who doesn't have average resistance. The idea is truly fatalistic. Conservatism in exercise is necessary for a favorable result in the majority of cases of tuberculosis. Rest is the greatest single factor in the healing of tuberculosis exclusive of collapse measures.

The general use of collapse measures such as pneumothorax has changed the course of the disease in thousands of cases. Too often the patient is put back on his feet immediately because of the improvement following collapse. In some clinics patients are not even put on bed rest during the pneumothorax induction period. But an immediate satisfactory collapse does not mean that the disease is healing—collapsed disease is not healed disease. Spreads do occur in well collapsed lungs, empyema frequently occurs and new disease often appears in the contralateral lung. Patients with well collapsed fresh disease should not be allowed exercise immediately no matter how well they look or feel. Collapse measures are not a substitute for bed rest. A well regulated rehabilitation program will prevent relapse in many cases.

("Exercise in Tuberculosis, A Plea for Conservatism", by William J. Habeeb, M.D., Ohio State Med. Jour., Vol. 36, No. 6, June, 1940).

BOOK REVIEWS

Principles of Surgical Care, Shock and Other Problems, by Dr. Alfred Blalock, Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tenn., is just off the press. It is published by The C. V. Mosby Co., St. Louis. The price of the book is $4.50. The book contains 316 pages. This monograph is an amplification of the Beaumont Lectures for 1940. The book deals ably with the principles of preoperative and postoperative treatment, giving details when indicated. The book emphasizes that the operation is only a part of the treatment of surgical cases and that recent decreases in mortality rates are due more to advances in pre- and postoperative treatment than to any other factor. The leading idea carried throughout the book is the importance of making the patient safe for the operation.

Anesthesia and anesthetic agents constitute a chapter that is most timely and very important. Discussion of the principles in the finer points of surgical technique with their relation to the life and the well-being of the patient is most instructive, as well as the factors in wound healing.

The heart's relation to operation, the definition of shock, its prevention and treatment are given major consideration. Fluids, how used and why, is information that no surgeon should be without. The role of vitamins in surgical cases and the cause and treatment of surgical and other complications are explained so as to be helpful to any surgeon. The entire book is concise and to the point. It goes to the heart of every subject in a practical way.

With all the new preparations in the field of medicine the average doctor feels lost as to where he stands. A new up-to-date book has come to the rescue—APPLIED PHARMACOLOGY. The author of this timely book is Dr. Hugh Alister McGuigan, Professor of Pharmacology and Therapeutics, University of Illinois, College of Medicine. It is published by the C. V. Mosby Company of St. Louis. Price, $9.00. The author suggests that pharmacology is the scientific basis of therapeutics and, putting it another way, therapeutics is practical pharmacology. In this volume Dr. McGuigan connects physiology, biochemistry and pharmacology with clinical application. In doing this he has drawn liberally on modern texts on this subject. This book consists of 914 pages. In this volume the formula of the drug, its action, and its use are given, also the antidote and the treatment for ill effects. The old drugs are given due consideration and the very latest are given due space. Sulfanilamide, sulfapyridine and sulfathiazole are discussed. Much space is given to drugs used in heart disease. Pharmacology of the liver and the kidneys comes in for liberal space. Anesthetics and narcotics, including a discussion of local anesthesia and nerve blocking, will be found most helpful and interesting. Body temperature, what constitutes it, normal variations, fever and its effects and treatment will be found of special interest to the practitioner, as will the pharmacology of the uterus and a full discussion of the hormones. Detailed attention is given the chemotherapy of syphilis, and a last word on vitamins. This book has what is important to every man in the practice of medicine, both specialist and practitioner. Send your order to C. V. Mosby Company, St. Louis. Price, $9.00.

MANAGEMENT OF THE CARDIAC PATIENT, by William G. Leaman, Jr., M.D., F.A.C.P., Assistant Professor of Medicine in Charge of the Department of Cardiology, Woman's Medical College, of Pennsylvania, Philadelphia. Cardiologist, Woman's College, Memorial, Northeastern Hospitals and Philadelphia Hospital for Contagious Diseases, Consulting Cardiologist, St. Luke's and Children's Hospital, Philadelphia, Assistant Visiting Physician, Philadelphia General Hospital, Chairman, Committee on Diseases of the Heart and Circulation, Philadelphia. Contains 255 original illustrations, two of which are in color, published by J. B. Lippincott Company. Price, $6.50.

This small volume attempts to assemble the facts that are most essential in the management of the cardiac patient. Physical and laboratory methods of examination that aid in the diagnosis are described and evaluated. Emphasis is placed on the present-day recognition of the importance of classifying and treating heart disease according to its etiology and the functional capacity of the patient rather than in the light of the structural defect. Material for this book has been collected during the past ten years which have been devoted to the teaching and practice of cardiology. These ten years followed seven years in general work.

The author has attempted to write a description of electrocardiography for the beginner, in the simplest terms possible. Controversial aspects have been avoided, and only the facts essential in the interpretation of the graphs are presented, briefly and in logical sequence. Numerous electrocardiograms have also been included with the case records to aid the physician in assessing the value of the method in each instance. Little difficulty should be encountered, particularly in the understanding of the cardiac arrhythmias, if from the start we train ourselves "to think electrocardiographically." Repetition has been avoided as much as possible to keep the size of the book within the limits of usefulness. A selective bibliography has been added to aid the physician in the further pursuit of a topic of special interest. This will be a welcome book for those wishing to keep up with recent advances in cardiography.

Mississippi State Medical Association

Organized 1867 | **Next Meeting: May, 1941, Biloxi**

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Hygiene and Public Health—Paul T. Haney, Laurel
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Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
Central Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	B. H. Higdon, Sunflower	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley.	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	J. T. Senter, Fulton	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	I. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
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Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.
Eye—S. S. McNair, Jackson.
Ear, Nose and Throat — Alston Callahan, Vicksburg.
Obstetrics and Gynecology—J. W. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Pathology and Clinical Pathology—John C. Henthorne, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Public Health—Felix J. Underwood, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

AN OUTBREAK OF DERMATITIS FROM NEW RESIN FABRIC FINISHES, Louis Schwartz, et al. Vol. 115, No. 11, Journal of American Medical Association, September 14, 1940.

The use of artificial fiber in the manufacture of wearing apparel and the use of certain processes in the dyeing of these materials has caused considerable interest to be centered upon the causative factors of dermatitis produced in susceptible individuals. Dermatitis produced by the wearing of these new materials was thought to be due to the material from which the garments or accessories were made, but upon investigation, both in the laboratory and clinically, it was found that susceptible laboratory animals (rabbits) and certain individuals reacted to the chemicals used in sizing, dyeing, and otherwise processing the material. The material itself dyed and processed by the methods used heretofore did not produce dermatitis in any greater percentage than silk, wool, or cotton.

Several suggestions are made: (1) That all new processes used in treating articles that are to be worn on the human skin be tested on laboratory animals. (2) That the finished product be tested on a large number of individuals before being put on the market. (3) That one launder all wearables that can be laundered before wearing.

—J. G. T.

EAR, NOSE AND THROAT

CRESATIN IN LARYNGOLOGY AND OTOLOGY—In the August LARYNGOSCOPE, M. D. Lederman, of New York City, again presents a discussion on the use of cresatin.

He recommends this particularly in furunculosis of the external canal but also in cases of eczema and of chronic purulent otitis media.

He also recommends its use for atropic rhinitis, for follicular tonsillitis, on lesions about the lips and gums and in cases of tubercular ulceration of the epiglottis and larynx. He reports it being used by other physicians in the treatment of otomycosis and gonorrheal ophthalmia.

The writer has used this preparation in the treatment of furunculosis of the external canal for many years but follows a slightly different technique. After the external canal is cleansed it is packed, fairly tightly, with a cotton tampon saturated with cresatin. This is left in situ for two or three days, the patient being instructed to moisten the cotton tampon with cresatin three times daily. When the patient returns to the office, the tampon is removed and the canal carefully cleansed; if necessary, a fresh tampon is inserted. As soon as the swelling has subsided the ear is cleansed and a saturated solution of boric acid in alcohol is used for a few days so that the skin will return to normal. Since adopting this technique, it has rarely been necessary to incise a furuncle. The writer recommends this treatment.

—E. H. J.

PEDIATRICS

A STUDY OF 240 BREAST-FED AND ARTIFICIALLY-FED INFANTS IN THE SAINT LOUIS AREA. II. INCIDENCE OF RASHES AND GASTRO-INTESTINAL DISTURBANCES IN BREAST-FED INFANTS AND IN INFANTS FED ON FRESH MILK FORMULAS AND ON ACIDIFIED (LACTIC ACID) AND NON-ACIDIFIED EVAPORATED MILK FORMULAS. Robinson, Edith C., American Journal of Diseases of Children, 59:1002 (May) 1940.

"Two hundred and forty infants were studied over a period of 20 months with respect to gastro-intestional disturbances and rashes accompanying different feedings."

"Gastro-Intestinal Disturbances.—Of 208 infants considered (the infants followed for as short a period as six months are not included here), 86 had diarrhea.

"The illness in most cases was mild. Treatment consisted in giving dilute unsweetened formulas without solids until the stools became normal; the basic formula was not changed. Infants with severe illness were hospitalized. Dysentery organisms were not found in any case.

"Forty-six per cent of the cases of diarrhea occurred in July, August, and September. There was a lower incidence of diarrhea in the breast-fed infants than in any other group; the highest incidence was in the group receiving whole milk. The frequency of diarrhea in the group fed non-irradiated milk was slightly greater than in the group fed irradiated milk. Of all the infants who were fed acidified evaporated milk, 40.2 per cent had diarrhea, as compared with 44.1 per cent of the infants receiving simple evaporated milk formulas.

"With regard to early feeding difficulties, such as regurgitation, colic, vomiting, constipation and irritability, there was no demonstrable difference between the infants given lactic acid and those not given lactic acid. The babies gained equally well."

Rashes—In the entire 240 subjects rashes occurred in 38 cases, or 15.8 per cent. "The rashes considered were the dry, papular, scaly, sometimes indurated variety. which suggests or develops into eczema. They appeared most frequently in January, February and March, and all cleared up without change of milk. In 29 of 38 infants the rashes were mild; in 9, moderate; in none, severe. There were fewer rashes in the breast-fed than in any other group; in the group fed irradiated milks there was a slightly higher percentage of rashes than in that fed non-irradiated milk. A family history of allergy was present in 12 cases. The treatment consisted in the use of an elimination diet (usually it was necessary to omit only wheat and egg) and tar ointment.

"The superiority of breast-fed infants with regard to the incidence of diarrhea is clearly outlined in this study . . . Diarrhea is less common in babies fed evaporated milk than in those fed whole milk."

"Lactic acid was used in about half of the evaporated milk formulas. There is a small difference in favor of the group fed lactic acid as regards diarrhea, but this is not great enough to be statistically significant."

"Breast-fed infants had the least amount of eczema in the series. There was a slightly lower percentage of rashes in the infants fed non-irradiated milk as compared with those fed irradiated milk. However, since all the infants in whom rashes appeared numbered only 38, and since all the rashes cleared up without change of milk, one cannot conclude that the higher incidence of rashes is evident against irradiated milk.

COMMENT

I felt that an abstract of this article would be interesting to the medical profession of the state at this time. There are many very interesting points to be considered in the discussion of this subject.

Most of us believe that breast milk is the most ideal nourishing food for infants, yet there are times when breast milk is not advisable for special reasons. The same thing is true in regard to feeding any kind of milk more especially to babies having diarrhea and digestive disturbances. It is quite interesting to note that the author seems to think that irradiated milk has much value over that of non-irradiated milk, and that acidified milk also has somewhat more value in avoiding diarrhea and digestive disturbances than plain evaporated milk. I am not inclined to agree with the author on the superior value of irradiated milk, however, it is evident that acidified milk is very valuable in many cases. Ordinarily there are fewer rashes in breast-fed babies than in the other group, yet there are cases where the eczemas appear in infants who were fed on breast milk alone that will clear up when fed other milk. The statement that diarrhea is less common in babies fed evaporated milk than in those fed whole milk is to be taken "with a grain of salt." There is such a tremendous tendency on the part of the commercial manufacturers of evaporated milk to favor and advertise its qualities over fresh whole milk, that they seem to have impregnated some of the medical profession with the same idea in order to convince the public of the superior quality of evaporated milk. I have been feeding babies for many years and I seriously question that evaporated milk has so many superior qualities over that of properly prepared fresh milk formulas. In fact I know that many times fresh whole milk formulas are much to be preferred. For instance, it is impossible to skim evaporated milk, and we often desire to feed skim milk formulas. There are, however, some advantages to be had by feeding evaporated milk. There is no question as to the value of evaporated milk but not to the extent of such great superior quality that it is loudly and vociferously proclaimed by the manufacturers of evaporated milk, much to the disgust of some of us and much of which is seriously questioned by many of us who are now and have been feeding babies for many years.

—H. F. G.

PUBLIC HEALTH

Find Tuberculosis Among Hospital Entrants, W. H. Oatway, Jr., Bull. National Tuberculosis Association, 6:83-84, June, 1940.

Emphasis in the diagnosis of tuberculosis is shifting from a late recognition of symptomatic cases to a consideration of apparently healthy individuals for evidences of infection and disease, points out the author. One of the methods of this changing approach is the application of case-finding procedures to all patients admitted to general hospitals. This group is large and it is prepared for diagnostic attempts, eliminating the objection sometimes made to having a diagnostic procedure performed for the specific purpose of locating tuberculosis infection. In such an environment where routine diagnostic methods can easily be applied, the group of general hospital admissions should be even more eligible and available than school or college groups, the personnel of offices, industrial plants, government employees, or the inmates of penitentiaries or asylums. The effort made and the funds expended in the examination of this group would be expected to yield a higher return in locating active tuberculosis, even the minimal subclinical type, than the examination of the general population for the reason that this group is seeking relief in many instances from obscure clinical disturbances.

Although the approach is logical, the need definite, the methods relatively simple and the results important, few hospitals are using an adequate routine for case-finding, the author further points out, and most are only now arranging for protection and examination of their personnel. Such care of personnel is highly laudable and necessary, but it is a secondary, after-the-horse-is-stolen approach compared to the recognition, isolation, and study of patients having tuberculosis. Perhaps the stimulation of publicity, plus new and developing methods of examination, will extend the use of case-finding methods.

Citing the need for case-finding routine, it is stated that there are many reasons why the lungs of every patient admitted to a general hospital should be examined, as soon as possible after admission, by some simple, quick, accurate, inexpensive diagnostic procedure. The lungs are the most frequent site of important and infectious tuberculosis. Although certain patients may be admitted and handled as known cases of tuberculosis, others will hide the existence of disease through fear of being refused admission or from false pride. Many more will enter unaware of a lesion which may produce no signs or symptoms. All cases of the disease should be known to the examining physicians, but surveys have shown that at least two-thirds are not found by the ordinary diagnostic procedures.

There are several obvious points in favor of routine examinations: 1. The patient's welfare requires that his diagnosis be as complete as possible, including tuberculosis if it is present. Discovery of the disease allows treatment or observation when it is most valuable. 2. Family or social contacts may be benefited by the recognition of a case which is actually or potentially infectious. 3. Hospital staff efficiency can be increased by a more complete knowledge of the patient's condition. 4. Physicians and public health services may be enabled to search for the source of the patient's infection. 5. Non-tuberculous patients may be protected from contact with an unrecognized case of tuberculosis by a quick diagnosis and the subsequent use of infectious disease precautions. 6. The entire hospital personnel and others with some degree of contact may be protected from exposure by the diagnosis and isolation of a tuberculous patient.

Results of Recent Surveys

The several surveys which have been made to find the incidence of tuberculosis among hospital admissions concur in several major points: 1. Tuberculosis is found in from one to two per cent of all patients by proper x-ray examination. 2. It is unrecognized by the usual means in two-thirds of these cases. 3. The procedure of routine x-ray examination is feasible. 4. No hospital has continued nor put it into effect beyond the experimental period.

It is astounding that, although the source of tuberculosis infection in hospitals is known and the value of such a discovery understood, the general application of routine case-finding examination in general hospital admissions is still delayed. A point which is important is the cost of examination. It need not be high, however, and probably will decrease in the near future with the application of new methods.

Attention is called to the fact that the several diagnostic methods used in the past and largely at present have proved to be insufficient. The best feasible method for present day use is a single x-ray film of all patients as near the time of admission as possible. (Films of ambulatory patients may be taken at the time of registration; bed-patients taken by bedside machine; and film readings made soon after film is taken.) Through this method detail is best and accuracy greatest; a permanent record is provided; and this film can replace one which may be indicated later. Miniature films are now being made by the reduction of a full-size fluoroscopic image to 4x5 inches with proper lens. Preliminary results show satisfactory sharpness of detail and a low cost for materials.

The use of some type of precise diagnostic methods to determine the pulmonary condition of all patients admitted to general hospitals would seem both necessary and possible, the author contends. The benefit of such information can be enormous. The use of new x-ray methods in hospital surveys, as well as in other case-finding programs, is an exciting possibility and is potentially of great practical value.

—H. C. R.

State Board of Health

Felix J. Underwood, M.D.

Need for Routine Spinal Fluid Examinations in Syphilis

In discussing the need for routine examination of the spinal fluid in syphilis cases, Dr. Stokes[1] in his MODERN CLINICAL SYPHILOLOGY makes this direct and irrefutable statement:

"The fact that the spinal fluid in itself may be the sole guide to an otherwise asymptomatic and obscure involvement of the most important group of structures affected by the disease, has justified the insistent demand of syphilologists that the test shall not be an optional part of the management of early and latent syphilis, but shall be an absolutely routine requirement for all cases at the proper time during their course. As a guide to the effect of and need for treatment in both early and late neurosyphilis, the examination of the spinal fluid has become indispensable, and failure to insist on the test may rank as culpable negligence. Should the patient refuse it, his blood is at least on his own head."

The following table shows the growth of this special phase of the syphilis clinic program in Mississippi:

	No. of spinal punctures done
1939	
February	0
March	1
April	7
May	6
June	7
July	12
August	16
September	16
October	16
November	33
December	37
1940	
January	68
February	73
March	80
April	81
May	138
June	103

The need for routine spinal tests has been very well demonstrated in Hinds County alone. Out of 43 routine tests done on white patients, 12, or 28 per cent, gave positive spinal fluid findings.

Although the percentage of neurosyphilis developed in colored syphilitics is considered to be less than in white syphilitics, the number of spinal tests so far found positive on colored patients in our clinics justifies, as in white patients, routine spinal puncture procedures on all colored patients. Special treatment given to these positive spinal fluid cases, which would not have been given had not the spinal fluid findings been evaluated, will prevent progression of the disease and save the state the expense of sending many of these cases to mental hospitals in the future.

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[1] Stokes, J. H.: Modern Clinical Syphilology. Philadelphia. Saunders. 1934.

Do not pass up the opportunity of performing routine spinal tests on patients infected with syphilis.

* * * *

Dr. D. V. Galloway, Supervisor of Venereal Disease Control, reports that four additional counties have appropriated funds in order to include venereal disease control in their full-time health programs. The counties are Madison, Tallahatchie, Noxubee and Holmes, leaving only two or three full-time counties in the state without this important public health service.

* * * *

Periodic Health Examinations

Public health officials have long recognized the value of periodic health examinations in preventing disease or in checking disease in its early stages. On every occasion a lay audience is addressed, and in nearly every health education pamphlet circulated, it is urged that people take advantage of the protection which this important procedure affords.

Living up to its teachings, the State Board of Health requests that all members of its personnel make a practice of having a physical examination at least once a year. A form letter, to be returned by the employee not later than November 15, 1940, is set up as follows:

Dear Dr. Underwood:

By vaccination on ...., 19...., I am protected against smallpox. (Vaccination within the past 5 years is acceptable).

By immunization on ...., 19...., I am protected against typhoid fever. (Protection every 2 years is required).

I had a Schick test on ...., 19...., which was positive/negative. On ...., 19...., toxin-antitoxin/toxoid was administered following the positive Schick. (Negative Schick test not more than 5 years old is acceptable).

Teeth examined on ...., 19...., and all defects corrected. On ...., 19...., x-ray was made of my teeth. Dental certificate signed by dentist doing my work is enclosed. (Dental examination and certificate required annually. Full mouth x-ray within the past 3 years is acceptable).

Medical examination on ...., 19...., by Dr. ...., and all remediable defects have been corrected. (Annual examination is required).

I had chest x-ray on ...., 19...., by Dr. .... (Chest x-ray within the past 3 years is acceptable).

I had Wassermann test on ...., 19..... (Wassermann test required annually).

These examinations not only afford the public health worker personal protection from disease but set an example for others to emulate.

* * * *

Fellowships Available for Postgraduate Medical Study

An opportunity for physicians to have a 3-months' fellowship to Tulane University School of Medicine is being made possible by the Commonwealth Fund. The fellowship will start January 1, 1941, for which there will be a monthly stipend of $250, with expenses paid to and from New Orleans. Dr. Harry E. Handley of the Commonwealth Fund will be in Jackson during the early part of October to interview candidates for fellowships. Physicians who would like a 3-months' review of latest practices in diagnosis, internal medicine, pediatrics, and obstetrics should get in touch with Dr. Felix J. Underwood before Dr. Handley's arrival.

Conditions governing fellowships are as follows: 1. The physician applying shall be under 50 years of age. 2. He shall have been out of school 5 years. 3. He shall not limit his practice to a specialty but do general practice. 4. He shall be a graduate of a reputable medical school approved by the American Medical Association. He shall be in good standing in the community where he conducts his practice and shall indicate his intention of remaining in that community as a permanent resident. 5. The postgraduate course is to be taken at the Tulane University School of Medicine. 6. The course is based on the subjects: diagnosis, internal medicine, pediatrics, and obstetrics, and is of 3 months' duration. 7. The course shall be taken in continuous term and shall not depart from the approved schedule without special authorization. 8. The rate of the fellowships shall be uniform; that is, $250 a month plus tuition and transportation to and from New Orleans. 9. At the conclusion of his course the physician shall render a brief written report to the Commonwealth Fund.

These helpful fellowships have been available to physicians in Mississippi for the past 11 years. During this period a total of 126, or an average of more than 11 practicing physicians each year, have availed themselves of the opportunity for "refresher" courses.

* * * *

Miscellaneous News

Drs. Andrew Hedmeg and J. P. Ward have been granted 9 months' leave of absence in order that they might attend Johns Hopkins University, School of Hygiene and Public Health. Dr. Hedmeg will be relieved by Dr. R. W. Harper as director of the Adams County Health Department. Dr. E. J. Holder will act as director of the Washington County Health Department in Dr. Ward's absence.

* * * *

Dr. E. W. Ryan, director of the Tallahatchie County Health Department, and Dr. R. H Bostwick, director of the Union County Health Department, have each been granted a 3-months' leave of absence in order that they might attend the short course for health officers at Vanderbilt University School of Medicine. Dr. George E. Gibbons will act as director of Tallahatchie's Health Department and Dr. George B. Neukon of the Union County Health Department during the period of absence.

* * * *

The State Board of Health welcomes to its staff Dr. Maude Gerdes, formerly with the United States Children's Bureau. Dr. Gerdes will serve as Obstetric Consultant and Acting Supervisor of Maternal and Child Health services. Graduating from the University of Minnesota Medical School in 1930 and after serving a rotating internship at the University of Minnesota General Hospital, Dr. Gerdes entered private practice. Later she served as Instructor in Obstetrics and Gynecology at the University of Minnesota General Hospital Clinics. Early in 1938 she became associated with the Children's Bureau at Washington where she was Obstetric Consultant. Her rich experience and knowledge make her a valuable addition to Mississippi's health program.

* * * *

Public health continues to play a paramount part in the defense program and appropriate measures have been instituted at Camp Shelby, Mississippi and other concentration points.

The State Health Officer attended a meeting in Washington recently at which the State and Territorial Health Officers, the United States Public Health Service, and the Children's Bureau planned to work in closest cooperation on all national defense projects.

COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

SEPTEMBER 11, 1940—MINUTES

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff held their regular monthly meeting at the Alcazar Hotel at 12 noon, Wednesday, September 11, 1940. The minutes of the previous meeting were approved as read.

Dr. W. H. Brandon made a motion that the doctors of the Coahoma County Medical Society advise the superintendent of the Clarksdale Hospital as to the names of expectant mothers whom the doctors will deliver in the future, so that the Clarksdale Hospital can send form letters to the expectant mothers advising them that they can pay in advance towards their hospital confinement bill. This motion was seconded by Dr. T. G. Hughes.

Dr. D. R. Minter presented an experience with atabrine in chemoprophylaxis of malaria. This paper was well presented and discussed by all members present.

Dr. L. H. Brevard volunteered to present a paper at our next regular monthly meeting.

DESOTO COUNTY

Illustrating again the peculiarity of some drugs, we take quinine, a remedy of universal use, often exhibiting peculiar properties. In some patients, this great specific for malaria cannot be taken without some disagreeable symptoms resulting—intolerable tinnitus aurium, an exanthem or other effect equally unpleasant. We remember a case where a ½-grain dose of quinine sulphate produced a most violent urticaria; another where medicinal doses of the same drug caused a severe palpitation of the heart with dyspnoea; and a third case where thirty grains of the hydrochlorate of quinine, hypodermically administered, produced wild and almost uncontrollable delirium, which, however, passed off in two or three hours. In some patients intense itching is experienced after the ingestion of quinine. In malarial countries enormous quantities of this ubiquitous drug are frequently taken.

Arsenic, of all substances, is that which has most frequently occasioned death by poisoning,

When used locally, in a weak application, it is absorbed more rapidly into the blood and may excite alarming and dangerous symptoms in consequence of the high degree of inflammation which it excites; but, if applied in sufficient strength, absorption does not follow its local use, so that, as with some other drugs, a tolerance may be established when doses in themselves highly toxic can be taken with impunity, as has been witnessed among the arsenic eaters of southern Austria and Syria.

By virtue of these peculiarities, medicines sometimes produce effects diametrically opposite to those they ordinarily exert. Dunglison knew a man that opium purged; yet this drug is usually administered to check inordinate action of the intestinal tube. He also gives a case of a lady who could not take rhubarb without an erysipelatous efflorescence showing itself on the skin almost immediately afterward; yet, what is singular, she could take it in the form of an infusion with perfect impunity.

Of course, the extent to which a particular patient has used a drug is an important consideration in calculating its effect. Habitual use of any drug, or of any remedial agent, tends largely to destroy its ordinary effect.

A woeful lack of psychology is often manifested by patients who will ask a doctor to hustle right over at any old time of the day or night. A veteran medico writes: "Consider the unwisdom of paying good money for a tired, fagged-out and hurried consultation when a little sensible planning could, for the same price, purchase the quick, clear thinking of the doctor's morning hours." Or, of the patient who rushes up as you start on a hurried call; or of the woman who insists on restating unimportant symptoms; or of the enciente woman who will not let you off to attend your medical association, et ad infinitum.

The world's youngest mother, six-year-old Lina Medina, of Peru, and her fifteen-month-old baby boy are expected to arrive in Chicago at an early date. She is indeed the greatest prodigy in medical history.

It is hard to believe the noble game of baseball is only one hundred years old. There are umpires who haven't been right for longer than that.—Portland Oregonian.

A cynic says women like to make fools out of men. And the poor men are far too willing to co-operate.

Adversity has the effect of eliciting talents, which in prosperous circumstances would have lain dormant.—Horace.

Vaccine to control the costly Bang's disease in cattle—and through it a dangerous human malady—is being developed by the Bureau of Animal Industry.

The vaccine is prepared with Brucella Abortus Strain 19, which was perfected by the animal disease unit of the Government's experiment station here.

Bang's disease often causes cows to abort their calves. Their unpasteurized milk causes undulant fever—a recurrent, exhaustive fever, often requiring long hospitalization—in humans.

Since 1934 Federal-State Governments have spent $51,000,000 to reimburse farmers for diseased cows slaughtered as a control step. Vaccinations, which may be incorporated in the control program, would eliminate some of such slaughter, said veterinarians at the station here.

Long-term tests indicate the vaccine protects 98 per cent of cows immunized. The cows not only do not lose their young, but cannot transmit the organism to humans.

Field tests have been made in 24 states where the slaughter program heretofore has been the only effective control measure.

This beautiful tribute to the Holy Bible is well worth reading and preserving:

The Bible

It seems as if to the feet of the sacred writers the mountains had brought all their gardens, all their frankincense, and the spring all its blossoms, and the harvests all their wealth, and heaven all its glory, and eternity all its stupendous realities; and that since then poets and orators and painters had been drinking from an exhausted fountain and searching for diamonds amid realms utterly rifled and ransacked.

Oh! this Book is the hive of all sweetness, the armory of all well-tempered weapons, the tower containing the crown jewels of the universe, the lamp that kindles all other lights, the home of all majesties and splendors, the steppingstone on which heaven stoops to kiss the earth with its glories, the marriage ring that unites the celestial and the terrestrial, while all the clustering white-robed multitudes of the sky stand round to rejoice at the nuptials. This book is the wreath into which are twisted all garlands, the song into which hath struck all harmonies, the river of light into which hath poured all the great tides of hallelujahs, the firmament in which all suns and moons and stars and constellations and galaxies and immensities and universes and eternities wheel and blaze and triumph.

Where is the youth with music in his soul who is not stirred by Jacob's lament, or Nathan's dirge, or Habakkuk's dithyrambic, or Paul's march of the resurrection, or St. John's anthem of the ten thousand times ten thousand doxology of elders on their faces, answering to the trumpet blast of archangel, with one foot on the sea and the other on the land, declaring that time shall be no longer? —Talmage.

Dr. J. W. Evans, Jr., who has been director of the County Health Department since its beginning, resigned to enter private practice; first he is to take a course in eye, ear, nose and throat at a University in St. Louis, Mo. Dr. Evans was alert and capable and his work has been high class.

His successor is Dr. W. Arthur Vandergriff, of Memphis, Tenn. He is an alumnus of the University of Tennessee and Charity Hospital of New Orleans. He is an engaging young man, married and appears to know his work and we are satisfied he will continue to make the health department worth while. He and the personnel are thoroughly efficient.

Rt. 4, Memphis, Tenn. L. L. Minor,
Sept. 19, 1940. Editor.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

President .... Mrs. E. C. Parker
Gulfport
President-elect .... Mrs. W. K. Stowers
Natchez
First Vice-President .... Mrs. Hugh H. Johnston
Vicksburg
Second Vice-President .... Mrs. Augustus Street
Vicksburg
Third Vice-President .... Mrs. W. H. Anderson
Booneville
Assistant .... Mrs. Stanley A. Hill
Corinth
Fourth Vice-President .... Mrs. B. B. Martin, Jr.
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Recording Secretary .... Mrs. H. C. Sheffield
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Cleveland
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Houston
Parliamentarian .... Mrs. C. C. Hightower
Hattiesburg
Research on History of Medicine .. Mrs. G. D. Mancill
Indianola
Public Relations .... Mrs. John B. Howell
Canton
Public Policy and Legislation . Mrs. F. L. Van Alstine
Jackson
Honorary President .... Mrs. Dan J. Williams
Gulfport
Memorial .... Mrs. Henry Boswell
Sanatorium
Doctor's Day .... Mrs. George Wallace
Gulfport
Exhibits .... Mrs. John S. Harter
Sanatorium

Councilors: First District, Mrs. H. L. Cockerham, Gunnison; Second District, Mrs. C. M. Roberts, New Albany; Third District, Mrs. T. H. Rayburn, Pontotoc; Fourth District, Mrs. Paul Brumby, Lexington; Fifth District, Mrs. H. E. Frizell, Vaughn; Sixth District, Mrs. R. L. Simmons, Meridian; Seventh District, Mrs. S. E. Bethea, Jr., Hattiesburg; Eighth District, Mrs. Lucien Gaudet, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point.

Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITIES CALENDAR

June—HYGEIA.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Pre-Natal Care.
April—Cancer.
May—Alcohol.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES AUXILIARY

The attractive home of Mrs. W. N. Reed provided an enjoyable place where Mrs. Reed, together with the doctors' wives of Monroe County, received the visiting auxiliary members of the Northeast Mississippi Thirteen Counties Medical Society on Tuesday, September 10, 1940. The guests were invited into the dining room where hor d' oeuvres, dainty sandwiches, cookies, mints and punch were served. The center of attraction was the beautiful centerpiece of garden flowers and the exquisite South American cut-work cloth which draped the dining room table.

The business meeting followed. The president, Mrs. Bernard Patrick, introduced the guest speaker, Dr. Augustus Street, of Vicksburg, president-elect of the Mississippi State Medical Association. Dr. Street brought an inspiring message to the auxiliary, stating the objectives of the State Medical Association as well as the four-fold purpose of the auxiliary. An objective, to aid in the maintenance of the doctors' offices, was offered by Dr. Street. This objective was whole-heartedly approved by the women.

Mrs. Augustus Street, chairman of the Preventorium Fund, was also a welcome guest. She told of the great work that is being carried on at the Sanatorium and urged the auxiliary's co-operation and liberal offerings for the Preventorium Fund.

Mrs. Stanley Hill, of Corinth, gave a paper on "Animal Experimentation," which revealed the value of animals for experimentation and how they had aided in the advancement of medicine.

Mrs. Patrick welcomed two new members, Mrs. John A. Murphee, of Amory, and Mrs. Robert Pegram, Jr., of Tupelo.

Following the adjournment of the business meeting, Miss Marion Longenecker sang "Ah, Sweet Mystery of Life" and "You Are Music." Her accompanist, Miss Mattie Greene Brook, also gave a piano solo, "Valcik," by Makrys.

This brought to a close an enjoyable, as well as inspiring, quarterly meeting of the auxiliary. A banquet for the doctors, their wives and guests was given by the Monroe County doctors at the Amory Hotel at 6:00 P.M.

ADDRESS TO THE WOMAN'S AUXILIARY OF THE NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY*

A. STREET, M.D., Vicksburg, Miss.

The importance of the Woman's Auxiliary is rapidly becoming recognized. For instance, up to four or five years ago the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION gave little or no space to your organization. I think it was the expanding activity and influence of the auxiliary in some of our Southern states, particularly Mississippi, that resulted in increased recognition. Now there is a section of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION each week devoted to the Auxiliary telling us about things its members are doing, also, the publication of the BULLETIN of the Auxiliary has recently been started. You are to be congratulated on the success of your leadership in the past, and I feel confident of your expanding accomplishments in the future.

The purposes of the State Medical Association are to bring together the doctors of the state into a compact organization and promote friendship among doctors to unite with other states and form the American Medical Association; to extend medical knowledge and advance medical science; to improve medical education; to promote the enactment and enforcement of just medical laws; to make the profession still more honorable and capable within itself so as to be increasingly useful to the public in the prevention and cure of disease, and in the prolonging of and adding comfort to life.

This purpose is ample within itself to separate the medical profession from swindling groups of cultists, quacks, and pseudo-scientific hybrid offshoots from medical science, and even from legitimate, worthy trades and business enterprises that carry on solely for financial gain.

The purpose of the Woman's Auxiliary, as you know from your constitution is (1) to extend the aims of the medical profession to all organizations which look to the advancement of health and health education; (2) to assist in the entertainment at all state, district and county society meetings; (3) to promote acquaintanceship among physicians' families that their fellowship may increase; and, (4) to do such work as may be approved from time to time by the Mississippi State Medical Association.

You have successfully undertaken objectives to accomplish this purpose by concentrating on various objectives of the doctors. Mainly, these have been: making the magazine HYGEIA available to the public; accuracy in vital statistics and determining the incidence of deaths in the state occurring when not attended by a physician; education on the tuberculosis problem and the State Preventorium and various other enterprises adopted to promote health education, in order to benefit the public by aiding the prevention and cure of disease; likewise, soliciting co-operation from state legislators in promoting the community hospital program.

I would like to offer one very modest and practical suggestion for an objective. I feel sure this suggestion will promote the welfare of the physician and patient and, therefore, is included in the broad aim of your organization; but I am not so sure of its promotion at all times by the members of the State Medical Association. My suggestion is that you aid in the maintenance of the doctors' offices.

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*Delivered at Amory, Miss., September 10, 1940.

It is expected and proper that when the doctor is in his office he is interested in the patients and is busy with them. He has little time to think of having things cleaned up and arranged. He is not likely to notice dingy walls, floors or draperies, and yet he is thoroughly aware of the importance of neatness and cleanliness in promoting comfort and health. I do not advocate elaborate pretentious offices but well-maintained ones.

Reading matter provided for patients has been the object of more than one pun. If you leave uninteresting reading matter in the waiting room it will probably stay there for years, but if you provide good and interesting magazines usually they soon disappear. It is unnecessary to mention to you the desirability of providing HYGEIA for patients in the doctor's waiting room.

Of equal or greater importance is the reading matter available to the doctor. If he is a specialist you will probably find medical periodicals relating to his specialty. However, the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is important to all doctors, general practitioners and specialists. Latest records indicate that a smaller percentage of Mississippi doctors appear on the mailing list of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION than in any other state in the Union. I do not hesitate to advocate one weekly copy of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for every doctor's office in our state.

There are additional conveniences and desirable features of the office such as appropriate pictures, office supplies, files, stationary, clean blotters and other things that may occur to you, and that may improve the well-being of the doctor and patient.

In conclusion: I would urge that the Auxiliary's service is to support the objectives of the Mississippi State Medical Association. This is obviously not for the selfish interests of the medical association members; but to promote public health through the increased usefulness and ability of the members of the State Medical Association.

PATENT MEDICINE

(To Dr. A. Street, of Vicksburg, we are indebted for the activity article this month.)

A patent medicine is one the manufacture of which is protected by letters patent. Usage has probably made the term include all preparations of unknown composition advertised and sold to the public with claims that if people will buy them and take them they will be benefited or cured of their symptoms and disorders.

As a matter of fact, the real object of offering patent medicine to the public is obviously not to benefit its health; but to benefit the bank account of the manufacturer.

State and federal agencies and the A. M. A. have been working for years to protect the public, by prohibiting the unrestricted sale of medicines containing dangerous drugs or chemicals. This worthy work was materially forwarded a few years ago by the sad and tragic consequences of the effort of a medicine manufacturer to convert an accepted valuable legitimate medicine into the patent class by making a solution of it, and selling it under a trade name. The solvent happened to be poisonous and resulted in numerous deaths.

The patent medicine vendor seeks large volumes of business, and so selects common symptoms, and with clever words in print and scheming patter on the radio, he bombards the public with suggestions as to how it feels. He harps on headaches, dizziness, constipation, acid side, foul breath, disordered liver, sour stomach, kidney and bladder trouble, asthma, athlete's foot, woman's ailments, fatigue, sexual impotence, and even suggests to the listener that he is suffering from malaria and tries to swindle him into buying a nostrum for it.

The huge amount of business done by these vendors indicates how large a number of our people there are in the credulous and gullible class. It seems to bear out the truth of Barnum's maxim: "The public loves to be fooled."

Honest and competent physicians work hard, using all means at their disposal, to elicit and interpret symptoms and to locate their cause. If the correct diagnosis can be made, he then knows whether or not there is any dependable treatment for the condition found present. He can then tell the patient about his prospects for cure, and prescribe what medicine, if any, is necessary.

ADAMS COUNTY AUXILIARY

The members of the Adams County Auxiliary and their husbands were delightfully entertained October 2 at the home of Dr. and Mrs. W. K. Stowers, of Natchez. Gorgeous dahlias lent elegance and beauty to the beautifully appointed dining table, laid for about twenty guests. Dr. W. H. Anderson, Booneville, president of the Mississippi State Medical Association, and Mrs. E. C. Parker, Gulfport, president of the Woman's Auxiliary, were both guests of honor on this occasion.

Following a deliciously prepared course dinner, Dr. E. E. Benoist became master of ceremonies, presenting the guests. Dr. Anderson reverted to the historical background of Natchez as an inspiration for new achievements in the medical profession. Just as the city had become the cynosure of all eyes through its capitalizing on the antebellum homes there, he urged the doctors' wives to study the ways they have of helping improve the service their husbands offer; to welcome opportunities of imparting information to the laity and thus strengthen confidence in the profession; to strive to be the leaders in work related to medicine.

Mrs. Parker stressed the importance of wives being informed on the endeavors of the medical profession. "Since health education is our major objective, let us keep alert and wide awake by constant reading of the A. M. A. Journal, the Bulletin, Hygeia and material pertaining to medical legislation," she urged. She called attention to the list of activities suggested each month in the Auxiliary section of the Mississippi Doctor.

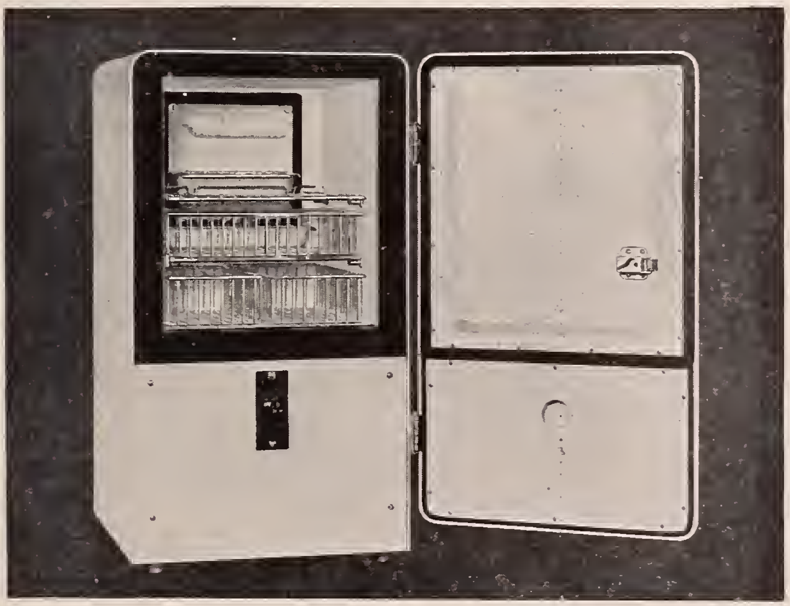
The meeting inaugurated what is hoped to be a season of enthusiastic activity.

EXECUTIVE BOARD MEETING

Accepting the gracious hospitality of Mrs. Henry Boswell at the Preventorium, October 3, the officers of the state organization met to lay definite plans for the year. Presided over by Mrs. E. C. Parker, president, the group went into a business session following a delectable luncheon.

Dr. W. H. Anderson urged that the auxiliaries over the state follow the activities calendar, and briefly explained why each subject is of particular importance for lay information this year.

The group voted to instruct Dr. Boswell to use $30.00 per month (enough to keep two children at the Preventorium) of the Preventorium Fund at the direction of the Preventorium chairman, who was authorized to accept in rotating order requests from the auxiliaries over the state for eligible children to be placed in the Preventorium.



DOCTOR,

You'll be interested in this new, small size electric refrigerator for preservation of your biological products.

It is made especially for this purpose and is equipped with three wire-basket-type trays for biological products, ampuls, etc., and a tray for ice cubes. There is, in addition, a sizeable space for large containers such as water bottles.

The freezing unit is of service-free construction, is self-lubricating and hermetically sealed.

It is made by W. D. Allison Company, an old reliable, well-known manufacturer of medical and surgical equipment. The price is moderate.

Literature will gladly be sent upon request, or, better still, see it at our store.

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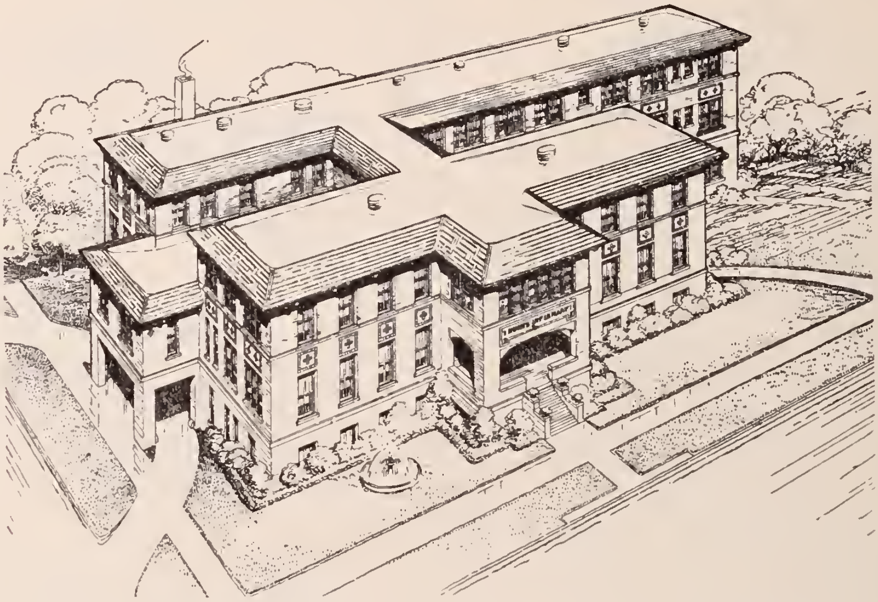

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[1] Sevringhaus, E. L., and Evans, J. S.: *Am. J. M. Sc.* 178:638, Nov. 1929.

[2] Novak, Emil: *Surg. Gynec. & Obst.* 70:124, Jan. 1940.

[3] Schneider, P. F.: *Am. J. Obst. & Gyn.* 37:861, May 1939

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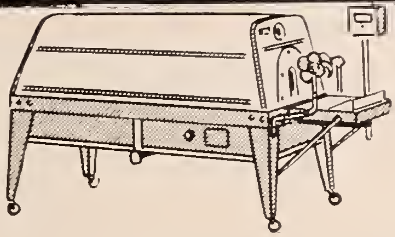

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A Discussion of Some Conditions Producing Chronic Low-Grade Obstruction of the Small Intestine*

LAY MARTIN, M.D.
Associate in Medicine, Johns Hopkins University
BALTIMORE, MD.

IN PRESENTING to you the subject in the title, I do so with the realization that I cannot speak as one who thoroughly understands the conditions involved. My only justification in speaking on it is that I am interested in it, am studying it, and am beginning to feel that I understand some of its aspects. Perhaps, since it is such an open field for investigation and observation, it will interest you and, I hope, may even present to you some new ideas on the conditions. If so, my paper will, in some degree, be justified.

May I, for the sake of clarity and at the risk of being much too elementary, refer to some of the fundamental anatomical and physiological details involved? The small intestine is a long, hollow, viscus which is curled upon itself and occupies a great part of the abdominal cavity. Beneath its serosa are two muscular layers, one longitudinal and the other circular. Within the latter, and forming the lining of the lumen of the gut, is the mucus membrane which is laid down in folds. From the folds, finger-like processes, called villi, project into the lumen. These villi consist of a single layer of epithelial cell membrane laid down on a limiting membrane within which a capillary loop and a lymph vessel are supported by connective tissue. This is the functioning absorbing unit of the small intestine.

At various phases along the folds are secretory cells, some of which excrete mucus, others enzymes with food digestive potentialities. The enzymes of the pancreas are naturally of extra-intestinal origin, but as all their activity is carried out in the lumen of the small bowel, they might, in a manner of speaking, be considered of intestinal origin, especially so since the media in which they are active has to be regulated within rather limited variations of acidity or alkalinity.

Due to the presence of the plexuses of Auerbach and Meisner within the muscular layers of the small intestine, this organ has a segmental and churning movement which is intrinsic. The vagus and sympathetic, however, have a marked influence on the motility and tone of the organ—the former as a driving force, the latter as an inhibiting one. It is important to note that at the ileocecal junction, where the muscles exert a sphincter-like action, the vagus acts as the inhibitory and the sympathetic as the motor nerve. This probably has something to do with the delayed emptying due to mild, reversed peristalsis, seen in the terminal ileum.

Since the vagus and sympathetic have such profound influence, the small intestine is an organ which can be readily affected by the psychic state of the patient. It is, therefore, an organ which can be disturbed by the host's reaction to environmental conditions in the same way that the large bowel may mirror the reaction of the cerebrum to pleasant or unpleasant conditions of life. It may well contribute to the complexity of some of the functional disorders of the gastro-intestinal tract.

Within the small intestine, the activity of the indigenous enzymes and those of pancreatic origin carry on the digestion begun in the stomach. Aided by the segmenting and churning propensities of the organ, the contents are well mixed so that the numerous villi are constantly bathed and rebathed in the fluid. Through peristaltic action, new mixtures are presented to them and the contents are gradually forced down to the ileocecal junction. By the time it has reached this point, practically complete digestion has been accomplished and the products thereof have been absorbed into the blood vessels or lacteals of the villi.

Under ordinary conditions of life, these processes procede in an orderly and systematic fashion, so much so that we are rarely conscious of our small intestines. So bountiful has nature been in its desire to furnish us with adequate digestive juices and with means of absorption of the products of their activity, that the intestines can compensate for and overcome notable handicaps before the body becomes aware of the difficulties under which the organ is laboring. Permit, however, the handicap to endure for a sufficiently long time, or suddenly to be completely impeded in its normal activities, and the host becomes aware of a number of discordant symptoms. In the case of an acute occlusion, this is well known to you all. In the earlier and slighter degrees of the milder interferences, especially those of long-standing, partial occlusion, the symptoms are apt to be minimal at first and only after prolonged continuance do they thoroughly impress themselves on the consciousness of the individual involved.

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*Presented before the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., Feb. 15, 1940.

In states of normal health, the emptying time of the stomach varies from two to five, or at most, six hours. The disparity in the time of emptying is caused by the different types of gastric organ. The highly placed, sthenic type empties more readily than the one whose body lies at the edge of the pelvis. The passage of the contents of a meal through the duodenum and upper jejunum is apt to be rapid, but below this portion, peristalsis proceeds at a more leisurely pace. If the stomach evacuates its contents within normal time limits, the small intestine should be free of the meal by the time eight or ten hours have elapsed. If food or barium is found in the jejunum or ileum after this time, one naturally suspects either that the stomach is slow in motility or that there is some abnormality in the small intestine itself. This may be due to a mechanical obstruction or to hypomotility of the small bowel.

There are numerous conditions which can interfere with the orderly processes of digestion and absorption within the small intestine. Such conditions as avitaminosis, sprue, pellagra, nutritional hypoproteinemia are a few of the more interesting, recently investigated metabolopathies. They are not, however, included within the scope of the subject we are discussing.

In the classification of pathological states limited to the condition we are discussing, and which may impede the regular procedure of the **motility** of the small intestine, we find four main groups:

1. Localized bands of adhesions which may be postoperative or result from intraperitoneal inflammatory reactions such as appendicitis.

2. Localized areas of inflammation such as tuberculosis, granuloma, gumma, and the recently noted types of regional ileitis.

3. Tumors—benign or malignant.

4. A potential, but very possible, psychogenic influence, either as a reaction to environmental states or to conditions such as those arising from malfunctioning physiologic states.

Before entering into the discussion of this group of cases as a whole, I should like to review some of the characteristics of the several sub-groups:

1. **Adhesive bands as a cause of long-standing partial occlusion of the small intestine**: Everyone has long been familiar with the syndrome produced by the high-grade occlusion of the small intestine resulting from postoperative adhesions, with nausea, vomiting, pain, dehydration, hypochloridemia, and increased nonprotein nitrogenemia. As surgical technique has progressed, as the meticulous handling of tissues has become more widely practised, as asepsis has become better controlled, the number of these cases has become progressively smaller. This condition is well recognized and need not be referred to further.

There is, however, a variation of this condition that is well worth our attention, a group of cases not always different in kind but so different in degree that they present quite different manifestations. I refer to a class of patients whose complaints are vague, ill-defined, and poorly understood. Two years ago we reported our observations upon twelve such patients; six of them had previously been operated upon, the other six had not. Since that time, we have added twenty cases to our lists and these are also included in the following discussion. Of the additional cases, twelve had been previously operated upon, the other eight had not.

The major symptoms of these patients are usually of a gastro-intestinal origin: They may have gaseous distention, heartburn, reflex pylorospasm, periods of diarrhea, periods of constipation, or alternating periods of both. At times they may feel well; at other times they are below par. Sometimes they describe their condition as one in which they are aware of their abdominal motility. Fatigue is a symptom of which they frequently complain, often coming on rather acutely before meals, and making the physician think of hypo-glycemic state. Pain, with them, is a rare complaint. They usually use the word, "discomfort," but whether the symptom be pain or discomfort, it is frequently intensified by the ingestion of meals. Sometimes it comes on before the evening meal; at other times it awakens them at night. Dizziness is another symptom which many of the patients experience. It comes on without apparent cause and is, at times, quite intense. Unexplained and unpredictable mild waves of nausea also add to the discomfort of some of these patients. The duration of symptoms varied from four months to eighteen years and the intensity was in no way related to the length of discomfort. No partiality to sex was discovered. There were women and men whose ages varied from 18 to 64 years.

On physical examination, the findings were not particularly noteworthy. In a few, one noted gaseous distention of the abdomen, which the patients averred was an inconstant condition. Several of them complained of pain when palpatory maneuvers were made over what appeared to be distended loops of small intestine. There was, however, no condition which one could recognize as pathognomonic of the underlying lesion. One factor of interest is that although these patients have had a great deal of discomfort, and a form of abdominal uneasiness which is prone to make them nervous, they seldom impress the observer with the idea that they are sick.

At times, the information gleaned from history and physical examination was so vague, so indefinite, that one might be inclined to accept them as the result of changes resting upon a psychogenic basis. Indeed, the large number of our patients had been so considered by a number of investigators and relegated to that nimbus of neurasthenia. And lest I be misunderstood, please do not believe that I feel we have not made our share of mistakes.

It is especially to one who is interested in the psychogenic basis of symptoms as being a positive diagnosis, and not a diagnosis of exclusion, that the investigation of these patients is interesting, and anything less than a definite diagnosis is unsatisfying. I have no patience with that school of thought which calls a patient neurasthenic solely on the basis of exclusion; solely because it has not been possible to find anything organically wrong. Psychoneurosis is a diagnosis which should stand upon its own merits and be so evaluated. Considering the numbers of these patients, it is obvious that they should be expected to suffer the same percentage incidence of pathological organic lesions as does the normal group.

It has long been a truism, especially recognized by the physician with experience, that experimental surgical procedures upon the neurasthenic are fraught with danger and directly strengthen the depth of the psychoneurotic state. There is no gainsaying this and lest I be misunderstood, let me reiterate: These patients do have symptoms suggestive of those produced by a neurasthenic state and some of them may be, in reality, of a neurasthenic makeup, but the symptoms we are discussing are not those which come from maladjusted reactions to life. They are symptoms arising from a handicapped small intestine and the underlying condition should, if possible, be treated. Psychotherapy in such a condition is valueless.

The most reliable information and diagnostic aid was obtained from fluoroscopy and x-ray films. At first we were inclined to believe that fluoroscopy gave us what information we needed and we took the films only for our records. Now that we have studied more cases, with a greater background of knowledge, we feel that films should always be made.

In making roentgen-ray studies of the small intestine, careful observation of times of examinations is important. The first consideration is to know the emptying time of the stomach. Our routine is then as follows: At 7 P.M. the patient is given four ounces of barium sulphate, either before or after the evening meal. He comes to the laboratory the next morning fasting. By fluoroscopy and films we note whether his small intestine is empty; if so, he is given another four ounces of barium sulphate so that we can observe the small intestine throughout the day. If not, he is sent out to eat. The effect of food and increased peristalsis is variable; at times, the small intestine will empty itself promptly, at other times it will not. Again, at times, even though it has emptied itself, we have later on been able to demonstrate a regurgitation of barium from the cecum into the small intestine. We are unaware of the significance of this phenomenon and are studying it now as suitable cases are presented to us. The significance of the emptying or non-emptying time of the small intestine is considerable. We feel, and so far have been able to prove upon the patients operated on, that when the terminal ileum did not empty after the meal, there was a mechanical obstruction, in all except one case. In that patient, free blood was found in the peritoneal cavity, the result of ovulation. After she recovered from the operation, serial films again demonstrated an ileostasis. She is of considerable interest to us and will remain under observation. On the other hand, we have operated upon three of the patients whose small intestines completed their emptying after food; in two of these, no adhesions were noted. When we find the small intestine does not empty under the stimulus of food, no further studies are ordinarily carried on that day. If it is deemed wise, we may later attempt to corroborate our evidence. If we cannot, we are loathe to make a diagnosis solely on the basis of x-ray details and have to co-ordinate the history, physical examination, and the palpatory maneuvers made at fluoroscopy.

In the cases we are considering, various types of conditions are noted under the fluoroscopic screen and in the films. At times there may be separated areas of barium collections; at other times a long loop of filled intestine is noted. Only rarely was any undoubtable dilatation seen. The presence of gas in the small intestine was notable by its absence. Generally, palpation over the filled loop will cause the patient discomfort, whereas that performance made on others will not do so. This is an especially important sign and so regarded even though the small intestine empties after food is eaten.

It was noted above that when we found the small intestine empty after the patient was given barium the night before, we gave him more of the opaque mixture and observed him through the day. As this takes time and care, we naturally do it only when we believe the symptoms indicate it.

The treatment to be accorded to these patients depends upon the degree of occlusion. If the evidence points towards a particularly low-grade of delay, one may temporize, take the tenable position that antispasmodics, reduced tension in life and, by consequence, reduction in the amount of functional small intestinal spasm, lessening of local areas of edema may place the organ in a position to handle adequately its reduced load. If this does not help, there is always recourse to surgery. In those patients whose findings are clear-cut and whose symptoms are quite suggestive, there is nothing to be gained by delay. Their only relief is to be obtained by surgery.

The type of surgery depends upon the degree of adhesions. In the simpler cases, simple separation of the band or bands will suffice. In the more pronounced instances, a resection is the only recourse and it is false kindness to believe that anything less will suffice. We have seen a return of the conditions in several of the patients whose adhesions were considerable and whose operative treatment was limited to release alone. The judgment necessary in the handling of these patients is of a high degree and they should be operated upon only by surgeons whose experience has been considerable and whose outlook and judgment is flexible.

2. **Regional ileitis and a few other localized inflammatory reactions which partially occlude the small intestine**: Several years ago, Drs. Crohn, Ginzburg, and Oppenheimer reported a series of cases in which they found inflammatory lesions localized at the terminal portion of the ileum. They labelled them as cases of "regional ileitis." The lesion was recognized as an area of local thickening of the walls of the ileum to such a degree that at times the lumen was almost obliterated. The lesion itself was an area of non-specific inflammation which drained into the regional lymph nodes of the mesentery. Judged by the symptoms, there were periods of growth and restitution of normal contiguity, but almost always a tendency towards progression and duration of the condition.

At the Johns Hopkins Hospital, 20 of these patients have been recognized. In the early stages of the disease, these patients complained of vague, ill-defined symptoms related to their abdominal cavities. There was gaseous distention, at times waves of nausea, at times diarrhea or constipation, a feeling of intestinal awareness. This corresponded to the primary stages of edema and inflammation, and early thickening of the walls of the small bowel. As the lumen became more restricted, the symptoms became more pronounced. Diarrhea became a prominent factor. The patients gradually lost weight and if the disease progressed without medical intervention, a certain number suffered complete occlusion and developed the well-known secondary changes dependent thereon.

On physical examination, a mass could, at times, be palpated, but this was not a general finding. There were, at times, areas of the small bowels which seemed distended to the palpating hand and were tender on pressure.

Studies on the urine were negative. Occult blood was frequently found in the stool. In the blood, leucocytosis was found at times, depending on the stage or activity of the lesion. A low-grade fever was also inconstantly noted.

In some instances, reliable diagnostic aid was obtained from the fluoroscopic and x-ray films. We have, however, operated upon a number of our patients solely on clinical evidence and in spite of negative x-ray findings. The nature of the changes noted in these studies depended upon the state of the progress of the lesion. In the earlier stage of inflammation and edema, no definite defect was observed, but as the wall thickened, one could note a diminution in the calibre of the lumen and a constant defect. Kantor, some years ago, described the typical lesion as similar to the appearance of a string. It has become known as the string sign and is certainly suggestive of ileitis. Diagnosis, however, must not rest upon this sign alone or numerous cases will be missed. Information may be gained both by barium enema and by oral administration of the contrast media.

Recently Crohn has recapitulated upon his ideas and reports that he has now seen 110 cases. Since the appearance of Crohn's original article, numerous publications have appeared on the subject. Even though some of them appear from large clinics, none of the reports is concerned with a group of the numerical size of that of Crohn. It makes one wonder whether it is not a disease especially common in the Jewish race.

3. **Tumors as a cause of partial occlusion of the small bowel**: Tumors of the small bowel are uncommon. An idea of their rarity may be gleaned from an article on the occurrence of small intestinal tumors as found through the surgical and pathological departments of the Johns Hopkins Hospital.

In their early stages, these tumors develop a condition from which symptoms of partial occlusion of the small intestine take origin. Indeed, from history and physical examination, they are impossible to differentiate from those caused by adhesions of the type we have described, or from the early stages of regional ileitis. These symptoms, vague and indefinite as they are, have been described above and it will not be necessary to reiterate them here. As they are apt to appear at any point along the length of the small intestine, the observer has to have recourse to most meticulous x-ray study of that organ in order to hope to diagnose them. Even with the best of attention and technique, they are frequently missed.

As an example, I wish to enclose the history and physical findings and x-ray observations on a typical case. The patient was a man of 54 years who had enjoyed better-than-average good health. Several months before consulting us he began to be bothered by indigestion, characterized by gaseous distention, vague abdominal discomfort, and intestinal uneasiness. His appetite remained excellent and he enjoyed his breakfast and luncheon fully. Usually at about 4 P.M. he began to experience the type of symptoms noted above. As time wore on, they became so pronounced that he lost his appetite for dinner and could not eat until the discomfort passed away in the evening.

On physical examination, his abdomen was found to be distended and he complained of recurrent sensations of abdominal discomfort that would slowly come to a peak and then die away. This syndrome occurred repeatedly.

The x-ray studies that were made at the time of the ingestion of barium, five, and then twenty-four hours later, showed nothing remarkable. However, when the technique described above was utilized, it was noted that his small bowel was not empty fourteen hours after the ingestion of the barium meal and that, furthermore, there was a definitely dilated loop of small intestine. On the basis of this finding, we felt it more likely that he was suffering from a tumor than adhesions, but we were not sure of its position. At operation, an annular carcinoma of the mid-portion of the intestine was found and near the ileocecal valve were bands of adhesions that were partially occluding the ileum. Proximal to the tumor was a dilated loop. Proximal to the adhesions, no definite dilatation was noted. Unfortunately, there were metastatic nodules in the liver.

4. **Delayed motility of the small intestine due to psychogenic cause, due to an apparent reflex instituted as a result of abnormal physiologic states and due to malnutrition with atony, which stimulate partial occlusion of the small intestine**: We have already discussed the anatomical basis whereby it is possible for the normal motility of the small intestine to be upset as a result of the host's reactions to his environment. This is a possibility that has to be kept strongly in mind when we endeavor to account for the likely causes of the symptoms recounted in the patient's history, the abnormalities noted on physical examina-

tion, and the x-ray demonstration of ileostasis at the end of fourteen hours.

We have found this condition in four individuals. In two, their symptoms became so acute, their laboratory studies so clear-cut, and the physical examinations so indicative, that they were operated upon for an acute appendicitis. At biopsy a normal appendix was found, but there was free fluid in the peritoneal cavity, mute evidence of a mistaken diagnosis. and the proof of a ruptured graafian follicle midway in the menstrual cycle. X-ray examination made later in these two women demonstrated a normal motility in the small bowel.

We have also seen a man and a women whose major difficulties were caused by fatigue, undernutrition, and overwork. The ileostasis demonstrated by x-ray was thought to represent a condition of small bowel hypotonicity that was a compliment of the general condition of the patient. After a period of time devoted to rest and hyper-alimentation, the small bowel showed no unusual manifestations.

DISCUSSION

The normal efficiency of the small intestine can be handicapped in a number of ways. At first the handicaps that are put in its path of quiet functioning can be readily compensated by the reserves intrinsic in the organ itself, so that its duties are satisfactorily carried on. However, as the extent of the interfering agents increases, the small bowel must needs work under sufficient handicap so that the force of its belabored efforts are noticed by the host. In this article we have dealt chiefly with the mechanical defects that interfere with the smooth performance of its normal motility. We have cited three conditions which cause partial occlusion and one which lowers motility via the nervous paths. In a fundamental conception, this should not be considered a mechanical state, but it has been included here as its recognition is so important that it must be kept in mind in evaluating the history, physical examination, and x-ray findings produced by the other conditions.

They all interfere with the motility of the small intestine and, indeed, when we review the early symptoms of each subdivision, it is apparent that there is little, if any, difference to choose between them. As symptoms develop, certain quasi-distinguishing features stand out. those patients who had constricting bands of adhesions, the growth of the intensity of the symptoms is slow and unless a severe degree of occlusion takes place, they rarely appear sick. On the other hand, the patients who suffer from ileitis often show clinical manifestations of active disease. They do not look well; they are frequently listless; some of them run a fever or a leucocytosis. Occult blood persists in the stools of others. In a number of them a tumor may be palpated.

The patients with benign or malignant tumors of their small intestines are indeed problems and they offer a worthy challenge to the perspicacity of their physicians. Until the late stages when there is loss of weight or cachectic signs of wasting disease, it is difficult to find any suggestive symptomatology and when they do appear, they are usually suggestive of the syndrome produced by localized adhesions.

A reconsideration of the x-ray manifestations of the three conditions is instructive. It seems quite clear that in the certain stages of the three different diseases, one cannot, with any degree of security, do more than state that the evidence is indicative of a low-grade partial occlusion of the bowel. One cannot disregard the ileostasis found not infrequently in the fourth sub-group. They also have symptoms which are suggestive of small intestinal partial occlusion. In the earlier period of our observations of these patients, we felt that their symptoms might be due to the condition demonstrated at x-ray. However, as we have observed more cases and learned more, as we found that the fourteen-hour ileostasis disappeared readily after eating, it appeared to us that we must look for conditions in these patients which would explain their hypomotility. Our studies have indicated to us that at times the cause was on a psychogenic basis and at other times it represented part of a general clinical condition such as malnutrition, prolonged fatigue, or some such misdirected physiologic action as the rupture of a graafian follicle into the peritoneal cavity.

Much of this discussion would seem to indicate that the most we can hope to do in the way of diagnosis of prolonged, partial, small intestinal occlusion was to recognize it as such without having much real hope of obtaining any real knowledge as to which sub-group the condition belonged. And, indeed, in a certain percentage of the patients, this is true and is by no means an unworthy accomplishment. Much can be done for these patients by establishing the broad basis of the condition which upsets the anatomical continuity and their physiologic performances. There are, however, many instances in which the diagnosis can be established from a careful scrutiny of the data obtained by routine methods as described above. As in all matters pertaining to medicine, the best results will naturally be obtained by the men interested and who have the condition in mind.

Hematologic Methods in the Practice of Pediatrics

L. W. DIGGS, M.D.,
MEMPHIS, TENNESSEE

STUDIES of the blood are important in pediatric practice, for blood dyscrasias in children are common. Erythroblastosis fetalis, the erythroblastic anemia of Cooley and hemorrhagic disease of the newborn are diseases which are peculiar to childhood. Acute leukemias, infectious mononucleosis, acute hemolytic anemias and purpuras occur more frequently in children than in adults. Hemophilia, congenital hemolytic icterus and sickle cell anemia usually become manifest during the early years of life. Secondary anemias are the rule in the chronic illnesses of children. Nutritional anemias are often present. Blood examinations are also of direct value in the diagnosis and treatment of the infections, parasitic diseases and poisonings.

Because of the importance of hematology in practice and because of the multiplicity of laboratory procedures and the rapidity with which new methods, instruments and interpretations are introduced, it is considered worth while to discuss methods and problems involved in blood examination.

THE BLOOD SMEAR

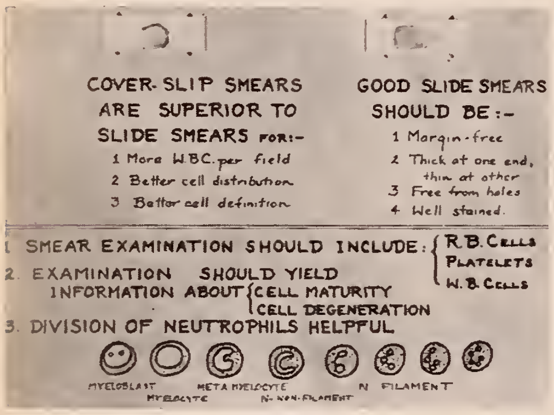
The most informative of all laboratory procedures and one which the doctor should not entirely entrust to his technician is the examination of the blood smear. From the smear alone, one can diagnose malaria, leukemia, infectious mononucleosis, sickle cell anemia and the erythroblastic anemias. From the smear alone one can tell whether or not there is a significant increase or decrease in white cells, a point of practical importance in acute abdominal conditions and in sulfanilamide therapy.

The type of cellular reaction revealed in the blood smear is often helpful in diagnosis. An increase in neutrophils suggests a pyogenic infection, an increase in eosinophils suggests parasitic disease or allergy, a lymphocytosis a non-pyogenic infection or whooping cough and a large mononucleosis suggests tuberculosis, typhoid or undulant fever. Mature and normal looking neutrophils in the presence of an infection are favorable signs. The presence of non-filamented neutrophils and other immature forms, together with degenerative changes in the white cells is indicative of a severe process and poor prognosis.

Macrocytes, diffusely basophilic erythrocytes, Jolly's bodies and nucleated red blood cells in the smear mean regenerative activity of the bone marrow, and the absence of these forms in the presence of severe anemia is indicative of bone marrow aplasia. Stippled red blood cells suggest lead or other poisoning. Abnormally shaped erythrocytes mean defective formation and increased susceptibility to destruction. A great increase in platelets suggests a tendency to thrombosis whereas a decrease suggests a tendency to hemorrhage.

The advantages of coverslip preparations, the criteria for a good smear and points of importance in smear examination are summarized in Fig. 1.

The most common error in making a blood smear is the use of too large a drop of blood and failure to make the film thin enough to distinguish cellular detail. If the drop is too large the blood will run over the edge and pile up at the end of the slide, thus making it impossible to do an accurate differential. Another common error is the use of scratched, chipped and dirty slides. Satisfactory slides cannot be made from old slides lying around loose in the bottom of the medicine case. Slides for blood smears should be new, and should be washed with warm water and soap and dried with a lint-free cloth. Care must be taken not to touch at any time the surface of the slide for the surface cannot be touched without leaving a fingerprint of grease. Slides are best carried in small paper packets or in a covered slide box. If we, as doctors, took the trouble to make better blood smears, we could expect more accurate reports.



COVER-SLIP SMEARS ARE SUPERIOR TO SLIDE SMEARS FOR:-
1 More W.B.C. per field
2 Better cell distribution
3 Better cell definition

GOOD SLIDE SMEARS SHOULD BE:-
1 Margin-free
2 Thick at one end, thin at other
3 Free from holes
4 Well stained.

1 SMEAR EXAMINATION SHOULD INCLUDE: R.B. CELLS, PLATELETS, W.B. CELLS
2. EXAMINATION SHOULD YIELD INFORMATION ABOUT CELL MATURITY, CELL DEGENERATION
3. DIVISION OF NEUTROPHILS HELPFUL

Fig. 1

A satisfactory stain is also essential for blood smear examination. Wright's stain continues to be the stain of choice. Everyone who uses Wright's stain long enough has trouble with it. Sometimes the fault lies in the stain itself and cannot be corrected. Sometimes the stain can be made to work by leaving the diluted stain on the slide for a longer period of time. Often the unsatisfactory staining is due to the pH of the diluting fluid and can be corrected by using a buffered diluting fluid having a pH of 6.4. Wright's stain and buffered diluting fluids can be obtained from dealers in laboratory reagents. The stain can also be purchased in a powder form from the National Analine and Chemical Co., N. Y., and made by mixing with C. P. methyl alcohol. (For directions see textbooks on clinical pathology.)

In examining a blood smear a microscope with a good oil immersion lens, a good eyepiece and a good condenser as well as an adequate light source are essential. If the microscope in use does not yield sharp images it should be sent back to the factory for cleaning and for replacement of defective parts. Many hospitals and private laboratories spend thousands of dollars each year for salaries of technical assistants and yet do not see the economy of spending a few dollars for a good microscope. The hematology laboratory revolves around the microscope. Without this essential instrument in good repair examinations should not be attempted.

Because smear examinations in the past have been largely used by surgeons in the diagnosis of infections and because in infections the differential count is the most important part of the picture, we have come to think that the smear examination begins and ends with the differential. The use of the term "T. W. and D." is indicative of this way of thinking. We have forgotten that the red cells and platelets are also a part of the blood smear and that in many conditions the alteration in these blood constituents is more important from a diagnostic standpoint than is the alteration in the differential. In the South, malaria is an ever present possibility and should be looked for in every blood smear. Unless the red cells and platelets are routinely studied, the laboratory worker will not develop concepts of normal variation and will fail to recognize abnormalities when they do occur.

HEMOGLOBIN

Next to the examination of the blood smear, the most informative single hematologic test is the estimation of hemoglobin. Numerous methods are available. The Tallquist filter paper method has its place as a preliminary test for the presence or absence of severe anemia, but the test is a crude one, unsuited for the detection of minor variations. The original Sahli method in which 20 cu. mm. of blood is laked with HC1 and diluted to match a standard is still the method of choice for general practice. Various companies make models of the Sahli instrument under their own name. Improvements in the instrument have been glass standards, better standardization, calibration in "grams per 100 cc" and devices for making the color match easier. The newer Haden-Hausser instrument is preferred by many and used in our out-patient laboratories because it is a faster method. In this method the blood is collected in a white cell pipette. The white cell count and hemoglobin estimation can be made from the same specimen. In our experience it is more difficult to match colors accurately with this instrument than with the Sahli.

For hospitals and for the larger clinics the new photometers are the instruments of choice for they are more accurate and save time. The large Haden-Hausser and Newcomer instruments are also recommended. The Sahli method is unsuited for hospital work, for multiple tubes are used and the tubes available on the market are not uniform. For accurate readings with the Sahli method, each tube must be standardized against each standard and a suitable correction made for each reading.

The normal hemoglobin value for children in the first few days of life varies from 15 to 20 grams, following which the value falls to 10 to 15 grams where it remains during the period of childhood. In adults the normal value for women is 12 to 16 grams and for men 14 to 18 grams. People of lower economic status have lower hemoglobin values than those who live in the more favorable environment and have a more adequate diet.

Hemoglobin should be expressed in terms of "grams per 100 cc." rather than in terms of "per cent," for there is no such thing as one single value being normal or 100% for all ages, sexes, geographical areas and environments. Different hemoglobinometers in common use do not have the same value for 100%. Thus one instrument is standardized so that 100% represents 17.2 grams while another instrument is standardized to read 13.7. It is obvious that a hemoglobin estimation on a given patient with these two instruments would yield entirely different "per cent" values. There is no more sense in expressing hemoglobin in "per cent" than it is to express age, weight, blood sugar or golf score in terms of "per cent" of some arbitrarily selected standard. We use "per cent" because the first crude instruments which were not accurately standardized used this manner of expression. We tenaciously cling to it because we are humans and resist the breaking of an old habit. "Per cent" hemoglobin, however, belongs to the horse and buggy days and should be placed in the museum along with the saddlebag and divining rod.

CELL COUNTING

Improvements in instruments for the counting of blood cells have been the development of instruments made of a single piece of glass with double counting chambers, improvements in rulings, and devices making it easy to find the ruled area and to see the lines. In the Spencer-Bright instrument a metal is fused into the glass making a surface on which the markings are sharply defined. The new Levy counting chamber is made of green glass which is restful to the eye and in which the cells and lines are readily visible. The A. H. Thomas instruments have a sloping platform which makes it easier to charge the chamber without overspilling. Bakelite holders reduce the chance of breakage.

The profession is warned against the purchase of cheap hemocytometers and other instruments of precision, for such instruments are usually those which do not come up to specifications and which are peddled off at bargain prices.

The technical errors involved in cell counting may be as great as 10%, hence too much emphasis must not be placed on minor variations.

In infections and particularly in cases of suspected appendicitis, the white cell count alone without an accurate differential is often misleading. In the usual case in which there is a definite leukocytosis and an increase in neutrophils out of proportion to the white cell count, the presence of an acute surgical condition is obvious. Sometimes the infection is so extensive or the organism so virulent that the formation of white cells is inhibited or the cells escape into the area of inflammation as fast or faster than they are formed, in which case the total white cell count would be normal or sub-normal. Many have used this type of reaction as an argument against the reliability of blood examinations. Actually, there will be in the stained smears of infections with low cell counts an increase in non-filamented neutrophils and degenerative and pathologic forms, which together with the low count and the clinical picture indicate a severe type of infection rather than an absence of infection.

It is readily admitted that technicians who have received inadequate training may be unable to recognize minor differences in cell morphology or to do accurate Schilling counts. Reports from such workers cannot be relied upon in making the decision to operate or not to operate. On the other hand, information which should be given weight in the appraisal of the case is present in the blood smear and it is the duty of the profession to give the patient the advantage of this information. If total white counts and smear examinations were properly made and interpreted, it would not be necessary to remove so many normal appendices and more abnormal appendices would be removed sooner. The all too common practice of deciding to operate and then ordering a blood examination and charging the patient for it is not in keeping with good practice and cannot be justified. Either the blood study should be utilized and decisions altered by the findings or the tests should not be run at all.

MEAN CORPUSCULAR HEMOGLOBIN

The relationship of the hemoglobin to the red cell count can best be calculated by determining the mean corpuscular hemoglobin or the amount of hemoglobin in the average red blood cell. This is done by dividing the grams hemoglobin in 100 cc. x 10 by the red cell count expressed in millions. Thus, if the hemoglobin is 10 grams and the red cell count 5,000,000, the mean corpuscular hemoglobin is 10 x 10 divided by 5, or 20 micromicrograms. The normal value is 27 to 32 micromicrograms. Values below 27 are indicative of a hypochromic type of anemia in which iron therapy is indicated. Values above 32 are found in hyperchromic anemias which respond best to liver therapy.

The mean corpuscular hemoglobin yields the same sort of information as revealed by the color index, but is superior to the color index because it deals with absolute rather than relative values.

RETICULOCYTE COUNT

Reticulocytes are immature red blood cells which in the presence of vital dyes reveal colored granules and reticulum within their cytoplasm. In normal bloods about 1% of the erythrocytes contain demonstrable reticulum. In regenerative anemias the reticulocyte count is increased above 5%. In the aplastic anemias there is no increase in the number of reticulocytes. Following specific therapy there is a temporary increase in immature erythrocytes with reticulum. Because a reticulocyte count is simple to do and is inexpensive and because it yields information of value in diagnosis and treatment, this test should be made available in all laboratories attempting hematologic study.

Reticulocyte counts are done in various ways. The method recommended is the brilliant cresyl blue moist preparation. In this procedure a drop of 1% brilliant cresyl blue in 95% alcohol is placed on a grease-free slide and allowed to dry. The film is gently smoothed with a piece of lens paper. A very small drop of finger blood is taken on a coverslip and dropped down on the film of dye. The edges are rimmed with vaseline. After about 10 minutes the moist preparation is examined under oil immersion using a bright light. In a satisfactory preparation the red cells should be separated and the platelets and white cells should be well stained. One thousand red cells are counted and the reticulated erythrocytes in this number noted. A tally counter is quite useful in making the count. The most common errors in this method are dirty slides and coverslips, too large a drop of blood, poor lights and too little or too much dye.

THE SEDIMENTATION RATE

In normal individuals or in patients with functional or non-destructive lesions or with minor inflammations, the erythrocytes in a suspension of blood to which an anticoagulant has been added will settle very slowly. In the presence of tissue necrosis or inflammatory lesions of sufficient size the falling velocity or sedimentation rate of the erythrocytes is increased. An increased rate is not specific for any disease, but an increased rate is indicative of abnormality and the speed of fall is the measure of the degree of abnormality.

In pediatrics the test is most useful in upper respiratory infections, rheumatic fever, arthritis and tuberculosis. In these conditions an increased rate means activity, a subsiding rate means improvement and a slow rate arrest of the process. The sedimentation rate is often useful in telling when it is safe to procede with tonsillectomy. It is also useful in telling whether or not there is organic disease present in patients who have vague symptoms such as loss of appetite, irritability, and lassitude. If the sedimentation rate is normal the patient and his parents can be assured. If the rate is increased then the activities of the child must be limited and search made for the cause.

For pediatric practice the best method is probably that of Wintrobe, for only 1 cc. of blood is needed. For adults we prefer the 5 cc. Cutler method. Another good method is that of Westergren. We have had no experience with micro methods, but from the experience of others these methods using finger blood are reliable. Results with different methods are not comparable for the length of the tube, the anti-coagulant used and the duration of observation. In anemias the rate of fall is increased as a rule and tables have been worked out for corrections of the sedimentation rate depending on the level of red cells or hemoglobin. When blood is allowed to stand for hours at room temperature, the sedimentation rate becomes slower. Tilting of the tube greatly increases the rate, hence care must be taken to keep the tube in a perfectly vertical position during the period of observation. In the absence of specially calibrated tubes, an ordinary test tube and ordinary millimeter ruler can be used.

THE USE OF OXALATED BLOOD

It has been shown by Osgood and others that oxalated venous blood can be used for many of the routine tests and that the results are comparable to those obtained from finger blood. The tests which can best be run on oxalated blood are given in Fig. 2. Slight hemolysis is likely to occur in oxalated blood, hence the procedure is not the method of choice for icterus index and van den Bergh. For most of the tests the blood is well enough preserved for 4 to 6 hours for accurate determinations. If the blood is to be kept for a longer period it should be put in the refrigerator. The concentration of blood sugar in non-refrigerated blood to which no preservative is added rapidly decreases, hence blood sugar determinations must be done immediately in order to be accurate. Previous to examination the blood must be thoroughly mixed.

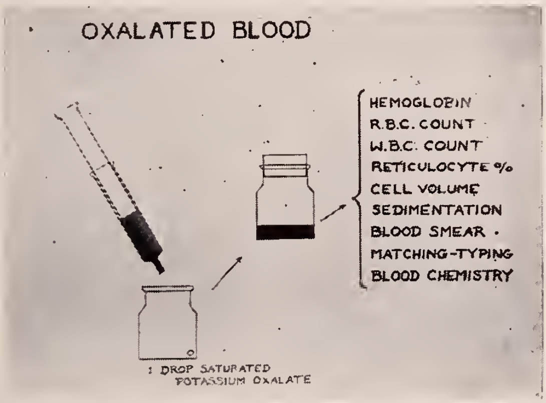


Fig. 2

In preparing oxalate bottles, 1 cc. of a 2% solution of potassium oxalate is placed in the container, heated to dryness and stoppered. This amount of oxalate will prevent the coagulation of 10 cc. of blood. If previously prepared oxalate bottles are not available one drop of saturated potassium oxalate can be used.

The advantages of the use of oxalated blood are that it eliminates the necessity of bringing the laboratory to the patient or the patient to the laboratory. The doctor with dry oxalate bottles in his car or medicine case and with a syringe and needle is equipped at all times to bring back to the laboratory a specimen of blood on which most of the important tests can be run. Moreover, the having of an ample specimen makes it possible to perform check tests and additional tests when unsuspected abnormalities are revealed.

THICK DROP FOR MALARIA

When malarial parasites are few in number as they usually are in the early stages of infestation and after therapy has been started, it is often difficult to demonstrate the organisms in a thin film even on prolonged search. In order to concentrate the organisms the thick drop preparation is used. A good method is to collect 3 to 4 small drops of blood on a slide and with the end of another slide or with a match fuse the drops in a circular area about the size of a nickel. The final preparation should be thin enough to read print through. If the drop is too thick it takes too long to dry and on drying tends to fall off. Giemsa solution which contains no fixative is used in staining. This solution takes the red cells and stains the nuclear structures and parasites. The individual parasites are distorted, their relationship to the red cell is lost or less definite and there are numerous artefacts. For these reasons the test is not recommended for the inexperienced worker. Public health laboratories prefer this method to the thin smear because it saves so much time and yields a larger number of positive diagnoses. All technicians in the South where malaria is ever present should make thick drops along with thin smears when they are examining for malaria in order to familiarize themselves with the method. Once they have mastered the technique they will not waste time on thin smears any more.

STASIS MOIST PREPARATION FOR SICKLING

Sickle cell anemia is one of the most common of the primary anemias of negroes and is sometimes seen in white people. The disease is often missed because it is not thought of. The most frequent erroneous diagnoses made on sickle cell anemia patients are rheumatic fever, arthritis, acute abdomen and the various febrile diseases. In many cases the shape of the erythrocytes in the stained smear, the high white cell and platelet count, the numerous nucleated red cells, the high reticulocyte count, the hemolytic type of jaundice and the clinical findings make the diagnosis easy. In some cases the typical elongated and pointed erythrocytes are not numerous in the stained smear and the examination of the blood for the sickle cell trait is needed to differentiate this disease from other regenerative and blood destructive diseases. The most effective method of doing this is to place an elastic band around the finger, leave it on for 5 minutes and make a sealed moist preparation of the anoxemic blood. If the sickle cell trait is present, the round erythrocytes will change their shape to bizarre "fish-fin" and multipointed forms. This striking alteration usually takes place within the first hour or two.

TESTS USED IN THE HEMOLYTIC ANEMIAS

In the diagnosis of atypical anemias it is often advantageous to know whether or not there is increased red blood cell destruction. In addition to the examination of the blood smear and the reticulocyte count the tests most useful are the Ehrlich or Schlesinger test for urobilin in the urine and the icteric index and qualitative van den Bergh on the blood. The presence of urobilin in the urine is indicative of blood destruction with pigment formation in excess of the ability of the liver to excrete, hence its excretion by the kidney. The icteric index is the most simple test for the detection of jaundice and for measuring the degree of jaundice. An icteric index of 6 to 15 means slight jaundice. When the jaundice is clinically demonstrable the icteric index is usually above 15.

In the presence of jaundice, a negative direct van den Bergh means retention or hemolytic jaundice. A positive direct van den Bergh means regurgitative or obstructive jaundice. The indirect van den Bergh has no differential value, for all bloods including normal blood give a positive indirect test.

TESTS USED IN THE HEMMORRHAGE DISEASES

The tests most useful in the hemorrhagic diseases are the platelet count, the bleeding time, the coagulation time, the retraction of the clot and the prothrombin estimation. Other tests which are sometimes useful are the capillary fragility test, cevitamic acid determination and fibrinogen concentration in the blood. Calcium determinations on the blood and the calcium coagulation time are unnecessary.

There are no entirely satisfactory platelet counting methods, for platelets are small objects which readily break up. They stick to all wettable surfaces and to each other, thus making even suspensions impossible. Research workers and skilled microscopists prefer one of the counting chamber methods for platelet enumeration, but these methods are not suited for the average technician, for platelets are difficult to see in the counting chamber and more difficult to differentiate with accuracy from artefacts. One can obtain a fair idea of the number of platelets from the examination of the ordinary blood smear. In normal bloods there are on the average one to three platelets in every oil immersion field and occasionally platelets in clumps. In thrombocytopenic states one has to search to find a single platelet.

We recommend for the platelet count the brilliant cresyl blue moist preparation, the technique being the same as described under the "reticulocyte count." The platelets under oil immersion with this method are unmistakable. By noting the number of platelets observed while counting 1,000 r.b.c., and knowing the red cell count, the platelet count can be calculated. With this method the platelet count is higher than with the direct methods, the normal values being 500,000 to 1,500,000 per cu. mm.

The bleeding time method now favored is the method of Ivy in which a blood pressure cuff is placed around the arm above the elbow and inflated to 40 mgm. Hg. This skin on the inner surface of the forearm is punctured with a lancet to a depth of 2.5 mm. The blood is blotted up at 30-second intervals. The normal bleeding time with this method is 2 to 8 minutes. This procedure is as simple to do and is more reliable than the Duke method in which the lobe of the ear is punctured.

The most reliable methods for the coagulation time are the test tube methods. A recommended modification is to place 5 cc. of venous blood in a graduated centrifuge tube. The tube is tilted at 30-second intervals until the clot forms. It is needless to turn the tube upside down in order to determine the end-point, for the clot will often fall out in your hand when this is attempted. After the clot is formed the tube is left at room temperature for 4 hours or placed in the refrigerator overnight. If the clot is normal it will retract from the walls of the tube and squeeze out from 40% to 60% of its volume as serum. A defective clot will not retract or on retraction will express less than 40% of its volume as serum. A defective clot is also soft and readily broken up, and does not maintain its shape when removed from the tube.

Capillary coagulation time and other micro methods using finger blood are unreliable, and should not be used unless it is impossible to do a vena puncture. The error in the capillary tube method is on the side of giving normal values in the presence of coagulation defects, hence the danger of depending on this method in surgical cases.

In predicting the tendency to bleed following operation the following procedure is recommended. Put a blood pressure cuff around the arm and determine the bleeding time. Then collect 5 cc. of venous blood and determine the test tube coagulation time. Save the blood clot in order to note its character, its ability to retract and the degree of retraction. Look at the forearm for petechial hemorrhages (capillary fragility test). These four essential tests can be done in a short period of time and with relatively little trouble. If no abnormalities are revealed in any of the tests then surgery can be undertaken without fear of difficulty in hemostasis, but if abnormalities are revealed by one or more of these tests operative procedures are dangerous.

There is no direct or simple test for the estimation of prothrombin. The method most used is the method of Quick. (Fig. 3). The Quick prothrombin coagulation time is based on the theory that blood coagulation occurs when thromboplastin or tissue factor reacts with prothrombin in the presence of calcium, yielding thrombin which in turn reacts with the soluble fibrinogen of the blood to form insoluble fibrin. The fibrinogen concentration in the blood is rarely altered in hemorrhagic diseases hence this factor can be ignored. By controlling two of the other variable factors, that is the thromboplastin and the calcium, the only remaining variable is the prothrombin. The clotting time of oxalated blood plasma to which thromboplastin and an optimum amount of calcium is added is the prothrombin coagulation time (Fig. 3). When a potent thromboplastic material is used the normal prothrombin time varies from 10 to 20 seconds. The potency of thromboplastic material varies with different batches and becomes less potent on standing, hence one must always run a control and be guided by the results obtained with the control rather than by figures obtained under ideal conditions.

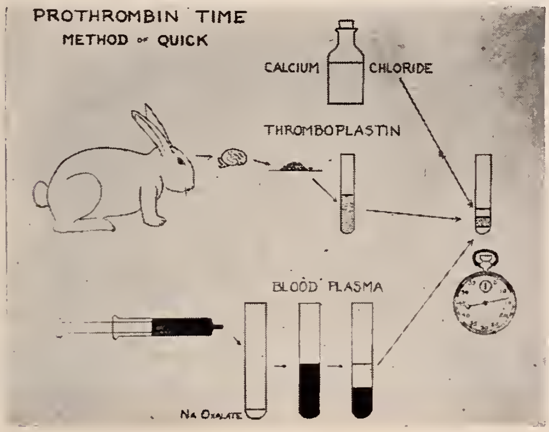


Fig. 3

The obtaining and killing of a rabbit, the removal of the brain, the preparation of a dry powder and the technical difficulties and special equipment needed for the Quick test make the procedure impractical. It is hoped that a stable thromboplastic substance can be prepared and made available, but at present no satisfactory commercial product has been produced. Until prothrombin methods are made available, the clinician will have to depend on clinical signs and the more simple tests and use vitamin K and blood transfusions on all cases suspected of having prothrombin deficiency.

The diseases in which there is a prothrombin deficiency include severe liver disease, chronic obstructive jaundice and biliary fistula, ulcerative and mechanical lesions of the intestinal tract and hemorrhagic disease of the newborn.

THE HETEROPHILE ANTIBODY TEST FOR INFECTIOUS MONONUCLEOSIS

Infectious mononucleosis or glandular fever is a much more common disease than is usually thought. Often the disease is mistaken for upper respiratory infections, influenza, undulant fever, typhoid or leukemia. The blood picture together with the clinical course is usually diagnostic. In the early stages of the disease the differential is not easy and the prognosis uncertain. For this reason the heterophile antibody test is of value.

In infectious mononucleosis the blood serum will as a rule agglutinate sheep red blood cells in titres 1 to 64 or above. Normal sera and sera from patients with leukemia and other diseases simulating infectious mononucleosis agglutinate sheep red cells in low titres, rarely exceeding 1 to 16. The heterophile antibody test, requiring as it does a suspension of erythrocytes from a sheep cannot be performed in the average laboratory, but it can be readily performed in any serologic laboratory in which the Wassermann is being performed.

Other Hematologic Methods

The determination of the volume of packed red blood cells and the estimation of the mean corpuscular volume and mean corpuscular hemoglobin concentration are commonly used in the typing of the anemias of adults and in the diagnosis and differential diagnosis of pernicious anemia but are seldom used or needed in the diagnosis of the anemias of childhood. For cell volume determinations the Wintrobe or the 15 cc. graduated centrifuge tube are recommended.

Other tests which are indicated in special cases and which the hematologist occasionally uses but which for various reasons are seldom used in practice are the measurement of cell diameters (Price-Jones), the oxidase and vital stains for differential counts in difficult cases, the examination of total blood volume, splenic puncture and bone marrow and lymph node biopsy.

Recommended Monographs on Hematology

The literature dealing with hematology and with diseases of the blood is voluminous and widely scattered. For details concerning methods, the reader is referred to recent textbooks on clinical pathology. Excellent discussions of blood diseases and methods used may be found in Tice's System of Medicine (Cooley, Sanford and Cooke). A few recent books which are considered as outstanding and which are recommended as general reference books for the physician's library are:

Beck, Regena C.: Laboratory Manual of Hematologic Technic, Saunders, Phila., 1938.

Whitby, L. E. H., and Briton, C. J. C.: Disorders of the Blood, Third Edition, Churchill, London, 1939.

Castle, W. B., and Minot, G. R.: Pathological Physiology and Clinical Description of the Anemias, Oxford U. Press, N. Y., 1936.

Forkner, C. E.: Leukemia and Allied Disorders, Macmillan, N. Y., 1938.

Kracke, R. R., and Garver, H. E.: Diseases of the Blood and Atlas of Hematology, Lippincott, Phila., 1937.

Piney, A., and Wyard, S.: Clinical Atlas of Blood Diseases, Fourth Edition, Blakiston's, Phila., 1938.

Summary

The examination of the blood is essential in the modern practice of medicine and is particularly important in the practice of pediatrics.

The two most important tests are the examination of the blood smear and the hemoglobin estimation. Other essential tests are the cell counts, the reticulocyte count and sedimentation rate. Oxalated blood can be used for many of the routine tests.

Tests of value in special cases are the thick drop for malaria, the stasis moist preparation for the detection of the sickle cell trait and the heterophile antibody test for infectious mononucleosis. In the hemolytic anemias the tests of greatest value are the icteric index, qualitative van den Bergh and the test for urobilin in the urine. In the hemorrhagic diseases the tests of choice are the platelet count, Ivy bleeding time, test tube coagulation time and character and retractility of the clot. Prothrombin determinations would be of great value in many conditions, but due to the difficulty in obtaining potent thromboplastic material, this test is at present impractical.

Other tests used in special cases include the determination of cell volume and mean corpuscular values, the use of special stains, measurement of cells, blood volume determinations, splenic puncture and bone and lymph node biopsy.

Carcinoma of the Prostate*

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THE MATERIAL forming the basis for this paper was gleaned from the pathologic and clinical files of Cleveland City Hospital. The study represents autopsied cases with proved primary carcinoma of the prostate from 1914 through 1936. There were 70 cases with complete clinical data and protocols studied. No attempt has been made to discuss the findings in their entirety or to draw any conclusions from them. The facts are presented as found, but in their evaluation one must remember that in most instances carcinoma was present in an advanced stage.

The average age for all cases was 65.3 years. There were 9 colored and the average age was 53 years. The youngest colored was 39 and the oldest 69. There were 61 white and the average age was 67 years. The youngest white was 43 and the oldest 84. The largest number of cases (34%) were found to be between 65 and 70 years. In only two cases was carcinoma of the prostate present before the fortieth year.

INITIAL SYMPTOMS. Accurate determination of the onset of disease is difficult since its frequent association with benign hypertrophy makes the symptoms of urinary obstruction unreliable. Dysuria was the most outstanding of all initial genito-urinary complaints. That is to say, the first complaint these patients had was dysuria.

Initial Symptoms	*No. Cases*
1. Dysuria	13
2. Nocturia	9
3. Urinary obstruction	7
4. Frequency	5
5. Gross hematuria	1
6. Small stream	1
7. Frequency and nocturia	1
8. Pain in the back and legs	8
9. Low back pain	2
10. Pain around the rectum	1

The pain in the back and legs was, no doubt, due to the metastases found in the spine at autopsy. In the case which complained of pain around the rectum, the tumor had extended down to and almost completely encircled the rectum without involvement of the mucous membrane.

SUBSEQUENT SYMPTOMS. All the genito-urinary complaints were listed which occurred after the onset of their initial complaint and during the course of the disease. Here again dysuria was most outstanding.

Symptoms	*Cases*
1. Dysuria	25
2. Obstruction	19
3. Frequency	16
4. Nocturia	14
5. Burning	8
6. Gross hematuria	5
7. Small stream	5
8. Incontinence	3
9. Pain in back and legs	12
10. Low back pain	7
11. Pain around the rectum	2

It is interesting to note that urinary obstruction was the initial complaint in only 7 cases, although it occurred in 19 cases during the course of the disease. It is generally accepted that cancer of the prostate is present in over 20 per cent of the cases of urinary obstruction. Gross hematuria occurs rarely as an initial symptom but not infrequently during the late stage of the disease.

MISCELLANEOUS INITIAL SYMPTOMS. There were numerous initial complaints which did not point directly to the genito-urinary tract as being the chief offender, for instance:

Initial Symptom	*Cases*
1. Mass in the rectum	2
2. Rectal stricture	1
3. Stomach trouble	1
4. Bowel trouble	1
5. Fracture of femur	1
6. Cough and pain in chest	2
7. Shortness of breath and edema of ankles	2
8. Weakness	2
9. Coma	2

The patients complaining of a mass in the rectum revealed on physical examination extension of the tumor from the prostate to the rectum by continuity. Cough and pain is frequently found as an initial symptom of neoplasm in the chest, whether primary or secondary. Spontaneous fractures should always lead to the suspicion of malignancy.

TIME ELEMENT. An attempt was made to determine the time element from the onset of the initial genito-urinary symptom until hospitalization. Four cases had no genito-urinary complaint; 16 were undetermined and 50 gave an average of 18 months with symptoms before coming to the hospital. It is generally accepted that one-third of all cases of cancer of the prostate show bony metastases when they first consult a doctor, a fair percentage have involvement of pelvic and abdominal lymph nodes and a small percentage have visceral metastases. The diagnosis of cancer of the prostate must, in a large measure, rest with the internist or the general practitioner, for it is they who are first consulted.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society at Tupelo, Mississippi.

The average time in the hospital for both operated and non-operated cases was 34 days. One must remember that the majority of these cases were far advanced. The average time from the onset of the initial genito-urinary symptoms until death for all cases was 19.3 months. In many large series of cases of malignant disease there are always a few patients who live many years. Thus, in this series there were 7 patients who lived more than 3 years, 2 of them more than 6 years. The 2 patients who lived longer than 6 years received only symptomatic treatment. Such cases are frequently pointed out as errors in diagnosis, but when the diagnosis is based on microscopic examination of tissue this explanation hardly holds.

Diagnosis. Dr. Osler once said, "The difference between a good doctor and a poor doctor is that a good doctor knows how to make a rectal examination." If a rectal examination were made an integral part of every routine physical examination, it is probable that more cancers of the prostate would be found early. In this group of cases 40 per cent were diagnosed as cancer of the prostate clinically, 14.3 per cent suspicious of malignancy and 45.7 per cent were undiagnosed.

The classical signs of cancer of the prostate are nodulation, induration and fixation. In this series, the prostate was described clinically as follows:

Description of Prostate	*Cases*
1. Enlarged, hard and irregular	25
2. Enlarged, hard and smooth	13
3. Hard and smooth	4
4. Hard and irregular	2
5. Enlarged and smooth	2
6. Small and firm	4
7. Small, hard and irregular	2
8. Small, soft and smooth	1
9. Not remarkable	17

In the early conditions many atypical palpatory findings exist; sometimes instead of pronounced induration there is localized softening and the induration can be in such limited areas as to be readily confused with induration of chronic prostatitis. There was one such case in this series which was described as "small, soft and smooth." There was one case with a preoperative diagnosis of carcinoma of the prostate and the postoperative diagnosis was prostatic abscess following perineal exposure. At autopsy carcinoma was found in the posterior lobe.

Generally speaking, cancer is a debilitating disease and the majority of patients show marked loss of weight in the advanced stage but the absence of emaciation does not exclude cancer. In this group of patients 55 per cent were described as emaciated on their last admission to the hospital, 38 per cent as moderately well nourished and 7 per cent as well nourished. The longest period for weight loss was 3 years and the greatest amount of weight loss for an individual patient was 100 pounds in one year.

Laboratory Findings. In this group there were only 6 patients who had positive Wassermann reaction, 3 white and 3 colored. The average red blood count for all cases was 3,610,000 and 73% hemoglobin. There were 19 cases with red blood count below 3,500,000. The average red blood count for 13 cases with extensive osseous metastases was 3,550,000 and 68% hemoglobin. Microscopic examination of the urine revealed how insignificant are the obstructive symptoms until late in the disease. Only 50 per cent of the cases gave a positive test for albumin in the urine and 65 per cent revealed white blood cells and 20% erythrocytes were found on microscopic examination. The average blood urea nitrogen in the cases with obstructive symptoms was 65 milligrams for each 100 cubic centimeters of blood.

Treatment. All three surgical approaches, suprapubic, transurethral and perineal, as well as combined with radium in some cases, were used in the treatment and the groups were so small that the results are not worthy of note. But when we divide the group into operated and non-operated cases we find that the average number of months from the onset of the initial genito-urinary symptoms to death for the non-operated cases was 18.1 months, 20.5 months for operated cases and an average of 19.3 months for all the cases.

Cause of Death. Although 27 per cent of

the cases had definite urinary obstruction only 18 per cent died of uremia, while 43 per cent died of bronchopneumonia. It is generally accepted that patients do not die primarily of carcinoma of the prostate but of complications or intercurrent diseases. In this group 18 per cent of the deaths were attributed directly to carcinoma of the prostate, all of which had extensive metastases, and 21 per cent to miscellaneous causes.

Classification. All of the microscopic sections of the prostate were reviewed and classified through the courtesy of Dr. Herbert S. Reichle.

Classification	*Per Cent*
1. Well differentiated adenocarcinoma	45
2. Moderately well differentiated adenocarcinoma	18
3. Poorly differentiated adenocarcinoma	21
4. Undifferentiated adenocarcinoma	16

Metastases. In 79 per cent of the cases metastases were found at autopsy either in the osseous system or soft tissue. One case revealed metastases to bone alone without evidence of tumor in the soft tissue being found but 21 per cent of the cases revealed no metastases and 20 per cent of the cases showed metastases to soft tissue without involvement of the skeletal system.

Lymph System. Shields Warren has beautifully demonstrated the route of metastases in carcinoma of the prostate. Metastatic tumor was found in the following sites:

Lymph Nodes	*Cases*
1. Local	53%
2. Para-aortic	30%
3. Mediastinal	17%
4. Supraclavicular	4%
5. Mesenteric	3%

Osseous System. In the analysis of these cases one must remember we are dealing with cases that are far advanced. There were 43 per cent which showed metastases to the spine, chiefly the lumbar area, 30 per cent to the pelvis and 16 per cent to the ribs. There were 3 cases which revealed metastases to the calvarium, 3 to the femur, 1 to humerus, 1 to the left clavicle and 1 to sternum.

Lungs. The most difficult differential diagnosis by x-ray of the lungs was between early metastases and pulmonary tuberculosis. In 30 per cent of the cases metastases were found in the lungs and 17 per cent in the pleura. It is generally conceded that tumor in the lungs with occlusion of the bronchus is usually primary carcinoma of the bronchus. In this series there were 3 cases which revealed metastatic tumor surrounding the bronchus, with occlusion in 2 cases and erosion of the mucous membrane in 1 case.

Spinal Cord. Four of the patients had metastases to the spinal cord which resulted in symptoms simulating tumor of the cord. Their urinary symptoms were minimal. Two cases complained of paresthesia of the legs while 2 cases had complete paralysis of both lower extremities on admission. At times, even when the cord itself is not affected directly, the diseased paravertebral lymph nodes may cause pressure on the spinal nerve roots with girdle pains and symptoms of sciatica or rheumatism.

Miscellaneous. Metastases may affect any part of the body. In this series the tumor had extended by continuity to the rectum in 9 cases and in 1 there was ulceration of the mucous membrane. Over half of these cases were diagnosed as primary carcinoma of the rectum.

Metastases	*Cases*
1. Liver	11
2. Adrenals	5
3. Spleen	3
4. Parietal pericardium	3
5. Kidney	2
6. Esophagus	1
7. Peritoneum	1
8. Testis	1
9. Soft palate of mouth	1

The average blood pressure for the patients with metastases to the adrenals was 125 systolic and 90 diastolic.

Genito-Urinary System. In 35 per cent of the cases the tumor had invaded the base of the bladder and 3 of these cases showed ulceration of the mucous membrane. One of the earliest signs that carcinoma has extended beyond the prostate gland is induration of the seminal vesicle. Forty per cent of the cases showed tumor involving one or both seminal vesicles. Eight cases revealed tumor extending up and involving the ureters, 5 of which were completely occluded on one side.

Concomitant Tumors. The mere fact that the diagnosis of one primary tumor is established does not exclude the possibility of a second. In this series there were 8 concomitant tumors established by microscopic study, with 1 primary tumor being in the prostate and a second elsewhere; namely, well differentiated adenocarcinoma of the pancreas, mucinous adenocarcinoma of the rectum, partially differentiated adenocarcinoma of the stomach, well differentiated papillary carcinoma of the bladder, spongioblastoma multiforme of the brain, carcinoma of the tonsil, and two epitheliomas of the face.

The Responsibility of the Physician in Correct Laboratory Diagnosis*

LEON S. LIPPINCOTT, M.D.
VICKSRURG, MISS.

WHEN YOUR chairman invited me to appear on this program, he told me of some of his troubles in securing the submission of specimens suitable for accurate laboratory examination, and asked that I say something on the "do's and don'ts."

The first thought was to blame the doctor for carelessness. Then when the rapid advance of laboratory methods, year by year, and the large number of new procedures were considered, there was wonder that so many physicians were able to follow the advance and do as well as they do. There is so much specialization in medicine and such vast literature that it is impossible for any one man to follow it all.

In the laboratory, this is well illustrated by the Medical War Manual, "Laboratory Methods of the United States Army." This book is intended to contain all of the procedures likely to be required in a laboratory, including those used in public health work. In 1918, during the World War, this manual was a little book, approximately 6 by 4 inches and ⅝ of an inch thick, with 256 pages, that could easily be carried in the pocket. In 1929, another edition was approximately one inch thick and contained 696 pages, already bulky for the pocket. The last edition in 1935 is approximately 8 by 5½ inches, 1½ inches thick, and contains 1,091 pages. It will hardly go in any pocket.

It then appeared that it might be of interest to know the difficulties encountered by laboratories in securing proper specimens in other parts of the country—if their troubles were the same or similar to those in Mississippi. Letters were sent to the directors of all state health department laboratories in the United States, asking what, if any, their difficulties were, and the suggestions that they made to physicians to help in obtaining specimens for proper examination. A vast amount of material was assembled. Thanks are especially given to the health departments of Alabama, Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Idaho, Kansas, Massachusetts, Michigan, New Jersey, New York, Ohio, Oregon, South Carolina, Virginia, West Virginia, Wisconsin and Wyoming.

It seems that specimens difficult or impossible of examination are not limited to Mississippi. It is also apparent that the time allowed for papers before this Association will not permit the presenting of specific directions for taking and submitting of all of the various kinds of laboratory specimens.

While "Don'ts" are usually not so effective as "Do's," it is believed that if some of the difficulties encountered by laboratory workers are presented here, it will call attention to the responsibility of the physician if accurate and dependable laboratory reports are to be expected. To secure results, the laboratory director must be considered as a consultant in medicine and as such he must be given the facts in the case and workable material if he is to aid the physician in his diagnosis and treatment. From Kansas: "A reliable laboratory report depends primarily upon care in collecting and shipping the specimen."

Some of the difficulties encountered are given below.

NOSE, THROAT AND NASO-PHARYNX

DIFFICULTIES:

ALABAMA: Swabs not really taken from naso-pharynx.

ARKANSAS: Most frequent difficulty is overgrowth of cultures due to presence of saliva organisms—the result of careless collection.

CONNECTICUT: The use of antiseptics or sprays in the throat or nasal passages previous to taking the cultures will lead to reports of "no growth" or to false negative reports. Other causes of unsatisfactory results are:

A. Failure to reach the causative organisms with the swab, particularly where the lesions cannot be plainly seen.

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*Read before the Section on Hygiene and Public Health at the seventy-third annual session of the Mississippi State Medical Association at Jackson, May 14, 1940.

B. Failure to use fresh media.

C. Failure to inoculate the medium properly.

D. Allowing the swab to be contaminated with types of bacteria from the mouth or nose or from external sources that cause the blood serum to liquefy or destroy any diphtheria bacilli which might be present.

GEORGIA: We have also had doctors break off a small twig from a tree and wrap a hunk of cotton around it and swab the throat of a suspected case of diphtheria, sending it to us for culture purposes.

KANSAS: Failure to use fresh media; failure to make culture properly and inoculate medium; use of antiseptics or sprays in throat or nose shortly before making cultures.

OHIO: Swabs stored in ice box before sending to laboratory—saliva-mucus.

OREGON: Only difficulty is improperly taken swabbings.

WEST VIRGINIA: Culture taken from "somewhere in the throat" of a diphtheria case but perhaps nowhere near the membrane, is almost sure to give a false negative report.

SPUTUM

DIFFICULTIES:

ALABAMA: Saliva frequently submitted instead of material from lungs.

ARKANSAS: Leaking containers are most objectionable and result in specimen being reported as unsatisfactory.

CONNECTICUT: Too frequently saliva or nasopharyngeal drainage.

GEORGIA: Sputum for tuberculosis examination has been sent in pieces of newspaper and bedside paper cups.

OHIO: Saliva, not sputum. Material expectorated into paper or cloth, etc., instead of clean bottle or jar.

SOUTH CAROLINA: Leaking bottles and boxes the worst trouble, due to insecurely tightened corks, caps or tops.

VIRGINIA: Cap improperly adjusted; leaking specimen.

BLOOD FOR SEROLOGICAL TESTS

DIFFICULTIES:

ALABAMA: Quantity often insufficient.

ARKANSAS: Hemolysis due to age and excessive handling is most frequent cause of unsatisfactory specimens. Insufficient amounts of both blood and spinal fluids are frequently submitted.

COLORADO: Hemolysis caused by contamination; water, alcohol or ether in syringe or needle; discharging blood from syringe into container with such force that corpuscles are disrupted; extreme heat or cold (including freezing); disturbing blood during clotting period.

CONNECTICUT: Failure to note extremes of temperature, both heat and cold, when mailing in outdoor mailbox; blood often taken when assimilating a heavy meal, causing chylous specimens.

GEORGIA: Recently the director of another laboratory cited a deplorable experience he had. It seems the doctor visited a sick child and made a throat culture on Loeffler's blood serum medium. On the same trip he encountered a patient requiring a blood test for syphilis, so he drew the blood and put it in the culture tube. He was highly incensed because the laboratory would make neither test.

NEW YORK: Collected soon after a full meal and serum cloudy from fat.

IDAHO: Physicians fail to send in sufficient blood, or the blood has been kept too long and, consequently, is hemolyzed.

OREGON: Now and then some physician sends in about 0.2 cc. and wants all the tests in serology run on it.

VIRGINIA: Hemolysis and insufficient serum.

WYOMING: Some samples are short. Others have been drawn in a wet syringe or one with a lot of vaseline on it. My big trouble in the winter is the large number of samples frozen in the mail.

BLOOD FOR AGGLUTINATION TESTS

DIFFICULTIES:

ALABAMA: Specimens frequently insufficient in amount.

ARKANSAS: We are endeavoring to discourage use of dried blood for Widals and encouraging use of vacuum tubes so as to decrease hemolysis and contamination.

GEORGIA: We have had blood sent to us for typhoid examination on toilet paper, prescription blanks, and pieces of newspaper.

OHIO: Adequate quantity necessary. Hemolysis and decomposition troublesome in cold and warm weather respectively.

VIRGINIA: Hemolysis and insufficient serum.

BLOOD FOR CULTURES

DIFFICULTIES:

ALABAMA: Request for culture often made without indicating the kind of organism to be sought for.

ARKANSAS: Lack of asepsis when collecting specimens and use of druggists' so-called sterile bottles for submitting specimens give most trouble.

CONNECTICUT: Frequently contaminated; apparently precautions to avoid skin contaminants not taken.

OHIO: Seldom in sterile containers. Discourage submission in mail.

WYOMING: Practically all cultures are contaminated by the physician.

BLOOD SMEARS FOR MALARIA

DIFFICULTIES:

ALABAMA: Smears poorly made. Not satisfactory for examination. Where two slides are submitted they are often stuck together before the blood has dried.

ARKANSAS: Use of greasy slides resulting in poorly made films and placing slides together before drying constitute our greatest problem.

CONNECTICUT: Thin smears 90 per cent poorly made; many too thick. Quinine given.

GEORGIA: We have had blood smears sent to us for malarial examination on watch glass, broken beer bottles, etc. Blood placed in bottle and allowed to clot.

OHIO: Smears are seldom well made. Doctors should be instructed to prepare smears as for differential cell count films.

OREGON: The occasional difficulty is improper smears—too thin.

VIRGINIA: Blood improperly spread—eaten off by flies, slides put together before the blood was dry.

OTHERS: Broken slides—in mail without protection.

FECES FOR PARASITES AND BACTERIOLOGICAL EXAMINATION

DIFFICULTIES:

ALABAMA: Specimens sometimes received in disinfectant. In surveys animal feces sometimes substituted for human.

ARKANSAS: Specimens for culture frequently are seeded too generously resulting in gross overgrowth.

GEORGIA: We have had fecal specimens submitted for intestinal parasite examination in quart fruit jars, and the jars were practically full of specimen. We have also had fecal specimens submitted for examination for dysentery submitted in diapers.

KANSAS: Generally too much feces has been added to the preservative solution. Furthermore, we find a good many specimens being sent to the laboratory after being delayed a week or even two weeks and, of course, those specimens are of no value.

OHIO: Delay in receipt of specimen. Too large a quantity of material in container.

OREGON: Difficulty is excessive amount of specimen which in warm weather **overflows!**

SOUTH CAROLINA: Leaking bottles and boxes the worst trouble, due to insecurely tightened corks, caps or tops.

VIRGINIA: Container filled too full.

WYOMING: I get too much stool. The samples are largely unsatisfactory because of the large quantity.

VENEREAL SMEARS

DIFFICULTIES:

ALABAMA: Smears made too thick and where two slides are submitted they are often stuck together.

ARKANSAS: Making films too thick and placing slides together before drying result in unsatisfactory reports.

CONNECTICUT: Smears often consist of superficial exudate. Uses of antiseptics or douches previous to taking specimen. Failure to reach causative organisms with swab. Failure to make thin smear for reliable microscopic examination (majority of all smears received too thick). Allowing swab to be contaminated with types of bacteria from genital tract that make slides very difficult to examine. Particular care should be taken with vaginal smears. Discharge which collects between labia and in vagina often unsatisfactory for microscopic examination.

GEORGIA: We have at times had bulky cotton swabs submitted to us with urethral and vaginal discharges. These were not so bad as we could make smears on slides.

OHIO: Slides often put together before pus is allowed to dry. Smears too thick with result that pus is smeared over all parts of slide making it difficult to handle.

WYOMING: Female smears are taken from every place in the vaginal vault but the os cervici.

CHANCRE FLUID FOR DARK FIELD EXAMINATION

DIFFICULTIES:

ALABAMA: Failure to seal adequately capillary tubes to prevent drying and improper packing so that tubes are broken in mail give most trouble.

CONNECTICUT: Many specimens too bloody.

GEORGIA: We encounter considerable difficulty with chancre fluids submitted for dark field examination due to the fact that the capillary tubes in which these are submitted in the mails are frequently plugged with pus.

Idaho: Most physicians do not submit sufficient serum or it contains too many blood cells.

Oregon: A few of the physicians do not get sufficient fluid.

South Carolina: Most trouble is with insufficient amount of fluid.

Virginia: Insufficient material.

DOGS' HEADS FOR RABIES

Difficulties:

Alabama: Sometimes decomposed; sometimes the brain is practically destroyed, the dog having been shot through the head.

Arkansas: Failure to refrigerate, shooting animal through the head, and placing ice in direct contact with animal head cause most of our trouble.

Arizona: We have more trouble with animal heads for rabies than any other single group of specimens. In some cases they may be packed directly in a mixture of ice and water; in others they may be packed in sawdust and ice in a wooden box. Then, of course, there is always the problem of the animal which was killed immediately after biting someone, or the animal which may be exhumed after five or six days.

Connecticut: Failure to ice causes spoilage in summer; animal not held under observation before killing.

Georgia: We have also had countless experiences with dog heads submitted for rabies examination. At one time we received a skull picked clean of all flesh by buzzards. Another time we had a head passed through an incinerator, and on several occasions we have received heads of dogs that had been recovered from wells and rivers.

Idaho: Most of the dogs are killed before anyone thinks of sending in the head to be examined. As a result, most of the examinations are worthless.

Oregon: Now and then someone digs up an animal which has been buried for a week or so, but rarely.

Virginia: Decomposed, due to the fact that the heads were not shipped in ice. Animals shot through the head and the brain tissue destroyed.

Wyoming: The animals are generally killed by clubbing or shooting through the head.

WATER FOR BACTERIOLOGICAL EXAMINATION

Difficulties:

Alabama: Unofficial samples often submitted in unsterilized containers.

Arkansas: Water submitted in containers other than those furnished by the laboratory will not be examined. It is a waste of time, money, and effort to submit water samples that are palpably contaminated.

Idaho: Waters to be checked for safety are often sent in medicine or whiskey bottles. The person submitting the sample usually insists that the bottle was thoroughly sterilized, which often is not the case.

Others: Samples contain surface scum or bottom mud.

INFORMATION IN REGARD TO PATIENT AND SPECIMEN

When a physician is called in consultation by another physician, he rightly expects to be told all of the facts in the case that may help him to be of most assistance in making a correct diagnosis and suggesting proper treatment. In the same way, if the laboratory is to be expected to aid in diagnosis and treatment, its director, a physician, should be given full information in regard to the patient for whom he is asked to carry out complicated procedures. Often proper information will suggest examinations other than those routinely made which will prove of greater value in the particular case at hand.

In all cases the laboratory should know:

The name of the doctor and his address.

The name of the patient and his address.

The patient's sex, age, occupation, nationality, color and marital status.

Source of specimen. How taken.

Date and hour of collection.

Clinical diagnosis, or suspected disease. Duration.

Examinations particularly desired.

Date and results of previous similar examinations.

Purpose for which examination is desired—diagnosis, discharge, carrier, to determine progress. Control of treatment.

Particular specimens should be accompanied by more specific information:

Sputum for Tuberculosis: X-ray findings; family history; school attended or place of employment.

Sputum for Pneumonia Typing: Lobar or broncho-pneumonia, parts of lungs involved.

Previous chemotherapy.

Specimens for Serological Tests: Prenatal, premarital, food handler, clinical routine. Dates of antisyphilitic treatment, has patient fever or other disease now, active lesions, primary, secondary or tertiary stage, acquired syphilis —early (less than one year since infection) or late, (more than one year since infection), congenital, history of gonorrhea or chancroid.

Venereal Smears: From urethra, vagina, cervix, prostate, Bartholin glands, eye (right or left). Recent specific treatment. Acute or chronic (months).

Blood Smears for Malaria: Has patient had chills? Frequency? Last? Has quinine or other anti-malarial treatment been given? Date of last dose? Previous history of malaria. Other cases in family. Spleen enlarged.

Blood for Agglutination Tests: Has patient had typhoid, paratyphoid, brucellosis, tularemia or typhus previously? Is patient a milk or food handler? Has vaccine been given? When? Diarrhea, rose spots, enlarged spleen, iliac tenderness, delirium, temperature? Suspected source of infection.

Feces or Urine for Enteric Organisms· Result of Widal test? Blood culture? Convalescent? Has patient previously had enteric disease or vaccine? Milk or food handler?

Feces for Intestinal Parasites: Has patient shown amebae, amebic cysts, hookworm, Ascaris, Trichuris, Oxyuris, tapeworm? When?

Dark Field for Treponema Pallidum: Suspected chancre or chancroid? Lymph node puncture. Location and duration of lesion. Ulcer mucous patch, where? Date exposed. Has any treatment been given; antiseptics used? History of gonorrhea?

Specimens for Examination for Rabies: Kind of animal? Symptoms. Who was bitten? Did animal die? Was it killed? How? Did a veterinarian make a diagnosis? How long after death was specimen shipped?

Water for Bacterial Analysis: Is water filtered, chlorinated? Do you suspect water is impure? Sample taken from tap, spout, pump, by immersing bottle. From well, spring, stream, cistern, reservoir, lake? On place of whom at what address? If well, is it dug, bored, deep, shallow, driven; has it force pump, spigot, bucket and chain or pitcher pump? Water used by how many persons? Does water become muddy or cloudy after rains? Type of soil? Are there any cesspools, privies, septic tanks, hog pens, ditches, barnyards, stables, etc., within 200 feet? If spring, approximate flow (gallon per minute). Is spring enclosed? If stream, approximate length of stream above intake. Are there any known sources of pollution? Sketch to illustrate is valuable.

Tissues: Location of tumor, duration, size, ulceration, regional lymph nodes enlarged, nature of operation, tissues removed.

Accuracy is the keystone of successful practice.—Alabama.

The laboratory wants to serve you. PLEASE HELP.

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DISCUSSION

Dr. H. C. Ricks (Jackson): Dr. Lippincott sees for himself all the laboratory reports that go out. He checks them. He is consultant with the physicians on his hospital staff and the methods of sending in tissue required by them are highly satisfactory. It has been my experience with Dr. Lippincott that the service he renders is not assailable in any respect. And I, as director of the State Hygienic Laboratory, can emphasize importance of the report he has obtained from his survey. I would urge that any laboratory needs intelligent co-operation from the doctors if they may expect satisfactory service. In addition to the points brought out we need to know whether the specimen sent to us is by contact of a certain individual, and if so, by whom; and in a suspected case, how long since he was exposed and how. I believe the detailed information he asked for is more essential so far as the clinical diagnosis is concerned than anything else. We are doing about 1000 specimens and obviously you can understand that a director of a laboratory will never see all of those.

I just want to drop a note of warning here. In our laboratory we have set up a rule that a person to take training in a state training school must have a B.S. or B.A. degree; otherwise, we are just not interested because people with less training take up too much time. I hope the time will come when all the hospitals in Mississippi will have people who qualify under the American Society of Bacteriologists.

DR. T. W. KEMMERER (Jackson): I believe that a very serious error is generally made in placing the emphasis on the laboratory rather than on the clinical pathologist in charge. Perhaps the clinical pathologist himself is largely responsible for this because of his modesty in speaking of the impersonal laboratory rather than of himself. One never hears the surgeon speak of the operating room rather than of himself. True, a large part of the routine work of the laboratory is done by assistants, but also a large part of the work of the operating room is done by assistants.

Laboratory work is a special branch of diagnostic medicine. In order that a proper diagnosis be made, the laboratory must have a proper specimen. That is, it must be the proper kind of specimen, properly collected and properly preserved so that it reaches the laboratory in proper condition. Also the specimen must be accompanied by such information as is specified by the laboratory.

I know that there are those who maintain that the laboratory should report only its findings without any comment as to their significance. With this I cannot agree. I do not believe that the general practitioner, or a specialist in any other line of medicine for that matter, should be expected to know the significance of all laboratory findings any more than he should be expected to know the significance of the findings on an x-ray plate made by a radiologist, an eye-ground finding or a refraction made by an ophthalmologist, a cystoscopic finding made by a urologist, and all other diagnostic findings made by specialists. It is the duty of each of these specialists to interpret his findings and it is also the duty of the laboratory diagnostician. To do this it is frequently necessary to have certain information in regard to the case.

To illustrate let us take the agglutination test. It becomes positive earlier in some diseases than in others. The date of onset being given, the laboratory diagnostician can state whether a negative test is of significance in excluding a certain disease or whether it is advisable to make another test at a later date and if so, when. In some diseases the agglutination test becomes negative within a short time after recovery, but in others it remains positive for years—for instance following tularemia. This, as well as the administration of vaccines, must be taken into consideration in determining the cause of the present illness. As an example of an agglutination test which is not specific but is very valuable is the Weil-Felix test. Much more could be said as to the significance of laboratory findings, time permitting. In but few instances can a diagnosis be made on the laboratory findings alone, as for instance the presence of pathogenic organisms in the blood. Consequently all other findings must be interested in relation to the clinical conditions. To do this requires at least a fairly comprehensive knowledge of clinical medicine and information concerning the case, which varies according to circumstances.

To repeat, the responsibility of the physician to the laboratory is to furnish the laboratory with the right kind of specimen together with such information as is desired by the laboratory.

Some Pharmacological Problems of Malaria

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YOU HAVE ALREADY learned in some considerable detail the manifold practical and scientific problems which constitute themselves into one huge and terrible picture which we call malaria. Even in this country we have our share of the estimated eight hundred million cases of this disease which eliminates about two million human beings yearly. Quoting from a recent editorial in the SOUTHERN MEDICAL JOURNAL we have near five million cases of malaria annually. Even the most careful and conservative estimates of known tangibles made last year by the Rockefeller Foundation place the resulting economic loss at something over $39,000,000, while the estimate made to include the intangibles by other sources raises this figure to the enormous one of half a billion dollars.

These figures are not quoted just for effect but to impress on you one of the greatest of the practical difficulties which beset any pharmacological solution to this problem, namely, its cost. The cost of either quinine or other drugs for one week's treatment alone of the existing malaria in this country would be at least $1,250,000. The total yield of quinine in the world is approximately six hundred tons, which at the existing prices amounts to $14,337,040, and it is estimated that huge areas, such as British India, obtain but ten per cent of their actual needs of this one drug.

In Italy it is estimated that the per capita yearly consumption of quinine is approximately fifteen grains. (1.0 gram) or a cost of two cents per capita for the entire population, or a sum of $9,000,000. Clearly any pharmacological attack on this disease must be made with a clear recognition of these facts since owing to the nature of the problem involved the cost of a drug may actually determine its therapeutic value. Moreover, it is clear that these factors not only apply to the actual treatment of cases but even more seriously to prophylactic use of pharmacological remedies, in which case much larger numbers of humans will be affected, especially in this country where the actual incident rate by no means approaches that found in more dangerous areas.

To neglect the enormous economic problem involved in the mere cost of drugs for the treatment of a disease such as malaria is to leave out a major factor in any investigation.

Until quite recently the only available drugs which successfully control clinical malaria were the quinine alkaloids, practically all of which were grown in the Dutch Indies, and for many years constituted a monopoly. The government of British India has made some rather feeble efforts to become self-supporting in this matter, but up to this time has been hopelessly handicapped by inadequate support and endeavour, which some have called stupidity, but which a reading of the bare facts shows this to reach such heights and depths as to transcend such a mild term. Not only is an enormous economic loss occasioned, but also, and in these times it is of even greater importance, the health of an enormous population, and especially of its white members, is dependent very largely on importation of a drug from a foreign source, and is thus not directly controllable.

In this country we are in an even worse position for we have no source of cinchona alkaloids other than those obtained from the Dutch, and in times of war it is conceivable that our supplies might be cut off.

Many attempts have been made to obtain either synthetic quinine or a good substitute, but all such attempts had failed up to the end of the Great War. Germany, not only activated by a desire to get a part of the immensely valuable quinine trade, but also by the clear realization that any attempts on the part of white men to govern and control malarial drugs without which he is practically helpless, was especially active. However, only two important substitutes have as yet been discovered, and while both drugs have a definite and useful place in the clinical control of malaria, neither seems very materially to have altered the essential picture. However, no longer is a country entirely dependent on the supplies of quinine for the treatment of its malaria. Moreover, one of the drugs, atabrine, is slightly less costly than quinine, although not nearly as low as some people have originally claimed.

Great Britain has finally discovered that there are possibilities in this field and has recently appropriated $150,000 per year for chemical studies of drug agents, including anti-malarial remedies. So far as I know, however, our Government is still more concerned with the building of post offices and dormitories, and other shells of human inactivities to pay much serious attention to a problem which on purely business grounds alone would appear to be worth investigating. We hear much of rackets, gambling machines, and other devices designed to wheedle money from the pockets of the very stupid, but we do not hear much of The Great $40,000,000 Malarial Racket, and from my standpoint as a pharmacologist we hear nothing at all.

Even a fraction of the money now being spent on possibly useful, but certainly unessential buildings, directed towards adequate pharmacological studies of this one disease problem, has a good possibility of saving the export of at least $1,250,000 annually, and if more successful would repay this country in the lives and the health of its own people, and doubly repay by rendering land now barely fit for human habitation healthy and prosperous.

I speak at this moment from the center of a country which only a few short years ago had a morbidity rate from fevers of recurring and sometimes terrible proportions. The fundamental conditions are all still here, but by constant and watchful guard Memphis at least is now a reasonably safe and healthy city in which to live. Looking at the incident charts, however, we find the enemy still surrounds us, is within striking distance of the city at all times, and occasionally makes a successful night raid.

We speak, and I quote literally those better able to do so than myself, of malarial control. This is a statement of fact. The problem as it stands now is one of a continual fight between natural conditions spreading the disease, potentially intensified by the increasingly larger towns and general habitation, and man. Even the disease itself is now recognized only to be capable of "control" and not cure. All our present efforts must be directed towards a quantitative control of infected people and the carrier mosquitoes. This also is another factor in any pharmacological attack, and a clear recognition that we have no cure for malaria, but merely a control of the clinical symptoms, and a partial control of the infection reservoir should be most clearly visualized, lest we fall into the error of believing that merely adequate supplies of quinine or a substitute would already solve our problems.

Bearing this in mind we may now turn our attention to the pharmacological problems which exist in connection with malaria. In the limited time at my disposal I am not going to weary you with a detailed rehash of textbook material. My purpose is to draw attention to the possible pharmacological attacks which we might make on this unrelenting enemy. The sea, the air, and infection are on duty every second of every day, and only by unremitting care can we hope to avoid the consequences of defeat. However, by means of constant experimentation the barriers between us and our enemies may be so strengthened that providing they are kept intact we may remain reasonably safe.

Reminding you then of the work of my distinguished and able colleagues, we see that malaria belongs to one of those curious life cycles which of necessity must pass through two dissimilar bodies. Where it starts is the old hen and egg problem, but for practical purposes we can take the sexual phaze present in human blood.

We thus have seven major stages:

1. Infectious human blood.
2. Sexual forms taken by mosquito into stomach.
3. Formation of cysts on stomach wall.
4. Free swimming (?) sporozoites which pass into the salivary gland of the mosquito.
5. Sporozoites passed into human tissues, and go goodness knows where.
6. These form merozoites which inhabit the red blood cells, propagate themselves industriously and asexually, and cause most of the symptoms of malaria, and also form.
7. Sexual form, and so back to the start.

Clearly we have a number of pharmacological possibilities each different, and each involving its own peculiarities.

Taking them in order:

1. It is possible to sterilize the blood already by means of drugs.

Quinine and atabrine both remove the sexual forms of the benign tertian and the quartan malaria. They are both less effective in the estivo-autumnal type. However, a new remedy, plasmochin, is very effective for this purpose. Theoretically, if every person in the world at a given moment received adequate quantities of plasmochin-quinine mixture the immediate incidence of malaria would drop precipitately. However, this procedure would not eliminate malaria, because none of these drugs entirely removes the infective process, and with the inevitable relapses again would develop infection reservoirs. Breaking the chain at this point then is only partially effective and although useful practically, especially in areas of very heavy infctions, becomes progressively less effective in areas where the infection is of a diminishing density. This situation is well illustrated by the most contradictory reports which have been obtained concerning the effectiveness of this particular method of prophylactic treatment, especially in regard to the use of plasmochin, which is much less effective as a controller of clinical malaria than the other drugs.

That such efforts are valuable is obvious, for as I have previously stated the control of malaria is on a quantitative basis, and the fewer the infection reservoirs, the much fewer the cases.

2. Concerning problem number two, which involves the mosquito vector, this really offers a number of possibilities.

(a) Mosquito poisons in any place of its life cycle. The larva is the only practical target at this time, and this may be attacked by oil or natural enemies.

The possibility of an attractive and poisonous food supply near habitations is, however, quite real but largely unexplored. The empirical use of animals for this purpose is of course well-known, and so widespread is the belief in its value as to suggest a careful probe of the whole question.

The use of deterent agencies on the human person is also an obvious target, but up to this time has been successful. According to one of our distinguished malarialogists, Dr. Stratman-Thomas, the mosquito is attracted largely by the heat factor and thus may not be affected by smell.

When the mosquito is infected, we can do nothing about it, unless we could train her to drink a suitable poison. I am not experienced in the habit of these insects, but after seeing them full of good blood meal, I should rather doubt if they would care even to take a drink shortly after. However, there is a time gap between the cyst stage and the sporozoite infection of the salivary gland, and if a poisonous food could be found of a practical type its use around habitations might, under some conditions, be worth while. If I remember correctly, however, all the authorities have agreed that to attempt to kill the adult mosquito is a hopeless practical task. However, diminishing the density of the infected insects most materially decreases human incidence, so that any method which is economically possible might contribute its quota to the control problem. Of course, I am tacitly assuming there is no other host but the human being.

At this time, then, malaria is pretty safe when it gets out of the human into a mosquito. Stages two, three, four, are thus at this time only in the speculative phase.

Stage five is to my mind by far the most interesting. The human is infected with sporozoites which go somewhere and develop. During this period the human is variably ill, but is as far as we know absolutely resistant to any form of treatment. Neither the newly infected sporozoites, nor the developing stages of the disease can be attacked successfully by any drug.

In other words, we already answer the question of prophylaxis. If a human being is living with infected mosquitoes, he will get malarial infection. (Unless individually resistant) Clearly if one had a drug which would kill sporozoites, we could not only prevent the onset of clinical malaria, but by preventing its development would virtually prevent its onset altogether. At one blow then would the disease be clinically removable and the human infection reservoirs eliminated. Such a drug would have such incalculable economic, human and national values as to render its value only translatable in astronomical terms. In my own opinion this is where a major attack on malaria should begin and not end until the problem is solved. The National Debt is $40,000,000,000 but a certain anti-sporozoite drug suitable for human use would be financlinically worth far more than that. ($40,000,000,000 at 2% would equal $800,000,000, namely, only $1.00 per capita of the estimated human cases!)

The next is the merozoite stage. These go through their various cyclic times, ripen, burst from the red cell, find a new home and start all over again.

Anti-malarial drugs are particularly effective against this stage, and the most important is the cinchona group of alkaloids. Next to these come the new synthetic derivative of acridine introduced into medicine in 1930 by Schulemann.

There is no doubt that the major anti-malarial drugs all act in this phase of the disease and their use is associated with a remarkable removal of the circulating parasites in the blood stream. However, it is still far from understood how this removal is caused. The first possibility is, of course, that the quinine drugs kill the parasite in situ. This I personally disbelieve because quinine does not penetrate cells well by reason of its remarkable ability to adhere to surfaces. Moreover, it is a well-known clinical fact that the quinine works most efficaciously if administered at times when the parasites are free, or about to become freed in the blood. These drugs are all poisons, rather general ones at that, and of course the parasite may well become poisoned when it is freed in the blood. However, unless the merozoite obtains a new home it perishes, and thus it is possible that the drugs may act by placing a poisonous barrier between the parasite and its new home —double one in fact because there might also be a film surrounding the parasite itself. Such a theoretical action I have developed several years ago on the basis that quinine has general poisonous properties, and also remarkable powers of surface concentration, thus a poisonous drug has been mechanized actually to do some material good.

What the action of either atabrine or plasmochin is remains a complete mystery, apart from the easily demonstrable fact that its use is promptly associated with a disappearance of the parasites from the peripheral blood.

Cinchona bark contains a large variety of alkaloids, the five most important (in quantity) being quinine, quinidine, cinchomin, cinchonidine and hydroquinine. For many years quinine has been the most important drug in the treatment of malaria, but in view of its cost and the world's shortage, efforts have been recently directed to evaluate the other alkaloids present in quinine. This work has confirmed the earlier work in that there is very little if any material difference between the values of the various alkaloids. Indeed, some authors claim that both quinidine and cinchonidine are actually better in the treatment of certain forms (particularly the benign tertian). However, from a rather amateurish standpoint and rather sketchy reading, I feel that none of the experiments is really crucial. Different infections of the same type require different dosages; some individuals are susceptible to one member of the group and not others. (Incidentally, Dawson reports a very interesting case where the susceptibility was to the laevo-cinchona alkaloids but not to the dextro-form and much of the work has not been conducted with really pure alkaloids). By and large it would appear that a mixture of the alkaloids is about as effective, and much cheaper than the purified quinine. This has recently been recognized by the League of Nations, and also the British Pharmacopoea and a crude mixture now standardized to contain 20% of quinine is used under the name of totaquin.

What appears to be the reasonable attitude at this time is to use quinine mixtures and/or atabrine with or without the addition of small doses of plasmochin. This latter drug is, however, so toxic as to require much more careful handling than the other two drugs.

If a patient does not respond to one or the other treatment, or is susceptible to one form of the cinchona alkaloids, he should be treated with one of the other alkaloids which he may well tolerate.

However, it must be clearly appreciated that the treatment of clinical malaria with these available drugs, while of great value does not cure the disease. There remains an underlying infection which no drug will eliminate, and which only (at this time) can the tissues themselves deal with by immunity processes. This has now been fully recognized, in consequence of which the fruitless and frequently dangerous attempts to cure a case by large and continuous doses has been largely given up in favor of the short treatment during the fever periods only.

Moreover, it has also become well recognized that the more chills a patient has had before treatment, the better chance he has of a complete cure, as judged by absence of relapse, and while it is not considered that quinine interferes with immunity processes directly, by preventing the chill reactions they are not so well developed. Immediate treatment is thus less effective than one somewhat delayed. We thus have yet another target for pharmacological attack, namely, the real cure of the malaria when once developed.

Finally, we come to the stage seven, namely, the formation of the sexual stages. There is, however, no known body that will decrease this phase. It would be a somewhat difficult target to aim at since it would mean a continuous treatment during infection and that would require a very safe drug for practical purposes.

Before leaving this subject, I may mention that there are other drugs of interest in the treatment of malaria.

These fall into two types:

1. Provocatives.
2. Minor curatives.

The former which are pressor drugs, like adrenalin, have been largely discarded.

Of the latter, arsenic is the most valuable, partly because it has anti-malarial properties, just as it has other anti-parasitical properties, and partly because it stimulates the growth of the red cells which counter the inevitable anemia associated with increased destruction rate of the blood. All forms of arsenic have value, but those anti-syphilitics capable of intravenous use are probably the most effective. I have not discovered yet if this drug may have any action than that associated with quinine but I do wonder if it could not have both sporozoite and gametocyte activities. Also whether its value in so-called chronic malaria might not be due to an attack on the underlying infection, as well as its known effects on blood formation. These are problems which seem as yet not clearly solved.

Antimony might also possess anti-malarial properties, as well as bismuth. However, these are not as marked as with arsenic.

Morphine has been known from time immemorial to be of benefit in the treatment of malaria. It probably acts like a weak quinine. Being so apt to cause secondary effects of an undesirable nature, its use is naturally strictly limited for this purpose, except perhaps in India.

There are a few new compounds being tried. One tebetrem is a combination of quinine derivative with acridine derivative plus a derivative of cholic acid. It is not as good as quinine. However, there is at this time much more activity in this direction which has been greatly stimulated by the success in other diseases with the sulphanilamide compounds. These, by the way, have no demonstrable value in the treatment of malaria.

Summarizing the present situation shows us to be really in a rather miserable state. Our effective drugs merely control the misery and danger to the patient of his peripheral blood infection. We cannot stop him from getting malaria, we cannot cure him when he has acquired the disease. All we can do is to decrease the infective forms in his blood, decrease the peripheral infection, and hope his natural immunity may develop sufficiently for the organism to die out quickly. Moreover, those drugs that do have a remarkable and measurable effect still act in an unknown manner.

Clearly, then, there is room for all kinds of people working on all kinds of problems who could profitably turn their energies to these many interesting and important problems. However, as I commenced by saying, they are so huge, and have already been tackled so often that such work to have reasonable hopes of success must be sufficiently well supported by materials, help and facilities. That we are to continue the work already started in this school with much better facilities, especially for the study of drug effects, is, of course, known to you, but I feel that good as this news is, one must hope that it is but the seed of a plant that will later develop into a permanent institution for the study of the problems here and in the lectures of my colleagues.

Tumors of the Orbit*

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FOLLOWING such an excellent and inspiring talk as the one we have just heard, I would be reluctant to try your patience by subjecting you to a long and weary assembly of abstracted articles on "Tumors of the Orbit," but will attempt to interest you more by presenting a brief discussion and follow it with a film of the surgical treatment of such a case.

The ophthalmological and surgical journals of the past two decades have been replete with articles not only on the broad subject of orbital tumors, but on each of the many subdivisions. A conscientious survey of the literature on pulsating exophthalmos, for example, would lead even the most unbiased student to the conclusion that all such cases that have ever occurred must have been reported; and despite the unusual anatomic situation of the internal carotid artery within the cavernous sinus before it reaches the brain offering a relative predilection for the development of fistulae, it must be admitted in fairness that the intrinsic nature and unexplicable fascination of such anomalies, coupled with frequent successful surgical correction, would give a physician an almost irresistible urge to present his own such personal triumphs.

Legion are the types of tumors which may occur in the orbit, but this consideration has been limited to the particular group into which my four cases have fallen, namely, neoplasms.

Neoplasms may arise within the orbital cavity or from structures adjacent or as metastasis from other structures of the body.

In two of my cases the tumor did arise within the orbit, one in a 26-year-old negro, being a hemangioma and the other, a pseudotumor, occurred in a 45-year-old negro.

Hemangiomas, which constitute the largest single group of orbital neoplasms, are usually encapsulated, irradiation sensitive, and easiest to deal with. Probably in origin their rate of growth is so slow that they are unnoticed until the second or third decade of life. They do not, as a rule, affect the motility of the eye, and they vary at intervals in size and thus extent of exophthalmos. These variations may be spontaneous, due to a variable stasis in venous circulation or by maneuvers, such as compression of the veins, crying, coughing, which produce a back pressure on the venous system. This is aided by the anatomic fact that the orbit is filled with semi-liquid fat, and the orbital venous system is in reality a plexus of valveless small veins. The upper plexus unites to form the chief vein of the orbit, the superior orbital, which communicates with the angular vein in front and is constricted at the entrance into the cavernous sinus behind.

In his series of orbital tumors, Algernon Reese presented 16 cases of pseudotumors, a type which is seldom mentioned. So similar are these in appearance to other tumors, that it is only by microscopic study that the differential diagnosis can be made between this clinical entity and neoplasms, for the cellular appearance is of chronic inflammation. Indeed, on receiving such a laboratory report, an impatient surgeon may be tempted to make a diagnosis of pseudo-pathologist, and it is only by continued consideration that one realizes the true nature of the tissue. Pseudotumors usually occur at the age of my second case, 45, and are more sudden in onset, often producing pain and edema. The pathology is that of a chronic cellulitis or granuloma, and sometimes at the close of an operation, when only bits of tissue have been removed, an incomplete success is anticipated, which very often fails to materialize and the exophthalmos is relieved entirely. This may be due in part to surgical decompression by widening of the retrobulbar space. The former belief that pseudotumors were related to syphilis has been unsubstantiated by investigation and its true origin is yet unsolved.

Meningiomas, dermoid cysts, sarcomas, and neurogenic tumors are other types which arise within the orbit.

Prominent among neoplasms originating in structures adjacent to the orbit are those of the nasopharynx. They are usually anaplastic in nature, and may be transition cell carcinoma, lympho-epithelioma, etc. The route which they follow most frequently is to advance through the foramen lacerum, come in contact with the internal carotid groove, and extend along the vessel and superior orbital fissure through which they enter the orbit. Cancers of the sinuses, or of the eye or eyelid may invade the orbit.

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-third annual session of the Mississippi State Medical Association, Jackson, Miss., May 14-16, 1940.

My third case, a 50-year-old obese female, was treated surgically by the Kronlein procedure, showed a huge endothelioma extending from the cranial cavity, and death occurred one week following the operation.

The last grouping of orbital tumors are those originating systemically, and metastasizing to the orbit, such as cancer of the breast, thyroid, lung. My fourth case was that of a 40-year-old female who had sustained a radical removal of the right breast for carcinoma, and at the time of surgery there were numerous carcinomatous nodules adherent to the subclavian vein. Approximately a year later, she began having severe headaches, and bilateral proptosis with choked discs developing a few months later. While the relatives were debating the granting of permission for cerebral operation, she succumbed.

The establishment of a diagnosis is simplified by the fact that a large proportion occur from relatively few types; as for example, 83% of Dr. Reese's series of 161 were due to only ten kinds. The various diagnostic procedures, such as x-ray, biopsy, aspiration, or otherwise, often enable one strongly to suspect, if not positively to identify, a particular neoplasm.

The surgical procedures for the treatment of these cases are varied and depend largely on the type and extent of tumor. Sarcoma and other highly malignant tumors are treated best by exenteration of the orbit with a Thiersch graft to aid in the proper healing. Enucleation with local excision is often indicated when the eyeball has been lost or is diseased itself. Local excision of the lesion may be employed when the tumor is localized or encapsulated, such as hemagioma, meningioma, dermoid cyst, etc. Some cases are best treated through the transconjunctival route, but Kronlein in 1886 proposed a temporary resection of the lateral orbital wall which has proved successful. A factor which necessitated considerable time in performing the Kronlein operation was the osseous section, and the procedure shown in the film shows the innovation of a new type of saw, devised by Dr. W. E. Johnston, of Vicksburg, Miss., which makes this very simple and brief.

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DISCUSSION

Dr. B. S. Guyton (Oxford): In Atkinson's "External Diseases of the Eye," is reported an orbital tumor case of mine which was diagnosed by a pathologist just following the first operation in January, 1932, as follows:

"SURGICAL PATHOLOGY

"Section from orbit, 1 1-3x1x1 inch, irregular, ragged ovoid, grey white; moderately firm. On section smooth, white, nodular and streaked with brown; moist. Some areas gelatinous.

"Microscopic: Glioma, malignant. Many mitotic figures. Considerable necrosis and interstitial blood.

"Diagnosis: Glioma, malignant."

During the past year I had another pathologist to examine the tissue removed at the second operation and his diagnosis was "sarcoma."

Since this was a most interesting case, I wish to take this opportunity to enlarge upon that report and to state the patient is still living and in good health after eight years following exenteration of the orbit.

The patient was brought to me four weeks after the first swelling of the eye was noticed, on December 11, 1931. The child was four years of age. A diagnosis of orbital tumor was made.

Because of the color of his lids, we thought at first that it was angioma and considered using radium, but after one week the growth had enlarged so markedly it was decided to remove the tumor.

The operative record was as follows: "Internal canthotomy with a perpendicular incision up the side of the nose one-half inch long and a division of the conjunctiva along the upper border of the tarsus was necessary for proper exposure. Removed a large soft tumor from upper inner quadrant of left orbit. It was firmly attached to the inner wall of the orbit, and the tumor mass, with finger-like projections, reached out in two or three directions in the soft tissues of the orbit, and had a very delicate capsule, so delicate that the slightest handling would cause a break. The tumor weighed 172 grains."

The child had a series of x-ray treatments, but almost exactly three months after the first operation, the exophthalmos had returned, with recurrence of the tumor, more prominent than at first. Exenteration was done, including both eyelids. The tumor was found attached to the paper plate of the ethmoid. After exenteration an electric cautery was used extensively in the apex of the orbit and the ethmoid cells adjacent to the tumor attachment were exenterated, and the electric cautery was applied freely to this area.

The orbit gradually filled with granulation tissue, and no skin grafts were used. An opening into the nose through the ethmoid area was patent for nearly three months, but finally closed and the boy has had no further trouble.

A series of lantern slides will show the progress of the case.

DR. J. C. PEQUES (Greenwood): Not having had as wide an experience in dealing with tumors of the orbit as Dr. Callahan, I feel privileged to have read his paper, and watch his interesting film of the surgical treatment of a case.

I have had three cases. Two of the patients are dead, and the other is now under x-ray treatment.

CASE ONE: Male, age 65. Sarcoma, with proptosis of the eye-ball. The eye-ball was removed, but the patient died in two days.

CASE TWO: Negro baby, two days old. Exenteration of the orbit. Socket refilled in four days. X-ray and radium of no avail. Died ten days later.

CASE THREE: Male, negro, age 65, blind, but eye grounds normal. Antrum treated with some decrease in swelling. Field x-rayed ten days later, showed tumor behind eye and in sinus. This patient is still alive.

As said before I have not had a wide experience in cases of this kind, but believe that x-ray and radium work better in my hands than operative removal.

The Physician's Responsibility*

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THE MEDICAL profession has never been unmindful of the necessity of constructive changes in the methods of organizing medical care or in the appropriate functions of the government in protecting the health of people. At the first meeting of the American Medical Association in 1847 it urged the establishment of "state medicine," a term which was used at that time to describe what later became known as public health. The organized medical profession has always used its influence for the establishment and proper administration of state and local health departments. It has been more than sixty years since the American Medical Association first advocated the establishment of a National Department of Health, with its head a member of the Cabinet. For many years the Association endeavored to secure the co-ordination of federal health activities through such a department and the 1938 special session of the House of Delegates again recommended the establishment of a federal health department with a secretary who shall be a doctor of medicine and a member of the President's Cabinet.

Proper care of patients having mental and nervous diseases has occupied the attention of organized medicine up to the present moment, when the American Medical Association is pointing out the numerous inadequacies of such care in many areas and urging the extension of facilities for such patients.

The establishment of health departments and the building of institutions for mental and nervous diseases merely opened new fields of activity for the American Medical Association. Then began the apparently never-ending struggle against the inroads of spoils, politics, governmental interference, and red tape. Years of costly effort have not yet been able to free health departments from political spoils and transform them into unhampered institutions for the protection of the public, and to change "insane asylums" into hospitals for mental diseases. The story of this transformation, still far from completed, can be read in the records of nearly every state and many of the county medical societies. A study of these records will show how little the language of the opponents of organized medicine has changed throughout the years. Medical societies were denounced as "narrow," "obstructive," and "professionally jealous," when they insisted that politicians should be supplanted by physicians in public health and in the care of the insane, and that the fields of governmental activity in health matters should be confined to those functions where political and governmental influence might be helpful and not harmful.

The co-operative medical projects being formulated by the Federal Government are doomed to failure for several reasons. It is not a sound insurance, but just a part of the welfare program which cannot be administered under proper control. It is just a salvaging system; as the medical service rendered must conform to the budget. It takes no provisions for future discovery or progress in medical practice; no research or postgraduate work will be possible, due to the fact that the amount of money available for this work is totally inadequate. These patients are dominated by individuals totally unqualified to determine the type of medical service that should be rendered. This inevitably controls the quality and practice of medical service. Unless there is someone with sufficient medical knowledge at the head of Farm Security Co-operative Medical Set-Up, these co-operative projects are doomed to failure for the above reasons.

E. A. Filene, who had promoted the Committee on the Cost of Medical Care and the Twentieth Century Fund, was behind the promotion of a co-operative health plan, the Group Health Association, among employees of the Home Loan Bank Board and Home Owners Loan Corporation in Washington.

Group Health Association was organized as a corporation, presumably for the puspose of providing medical service and hospitalization for employees of the H. O. L. C. and their families, although the certificate of incorporation makes every civil employee of the Government eligible for membership. It is known that the board contributed $20,000 the first year and an equal sum the second year.

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*Read before the Delta Medical Society at its thirty-sixth semi-annual meeting, Indianola, Miss., October 9, 1940.

Congress never had appropriated any funds for this purpose. When the comptroller general's office made an investigation at the request of a senator, it found the $40,000 outlay was unauthorized and irregular.

Dues in the G. H. A. were first set at $2.20 a month for single memberships and $3.30 for married, without regard to size of family. A general medical and hospital service was to be provided, subject to a few exceptions. Later, these rates were jacked up radically. Now a new member must pay a $5 application fee plus $1 for each dependent, and a $10 membership fee covering all dependents. Dues are still $2.20 a month for the principal member, $1.80 for husband or wife, $2.20 for each other dependent over 21 and $1 for each dependent child under 21. This amounts to $103 the first year for a married man with three children and thereafter $84 a year.

But this isn't all the cost. Members pay $1 for the first house call in any illness. Subsequent calls "made at the instance of the attending physician" will be charged for. The qualification is significant. For any chronic ills during the first three years the member must pay part of the cost. And there are other exceptions.

Group Health at first was strictly under the wing of the government agency. Supplies and equipment for the clinic were bought through the government purchasing facilities at the usual discounts, a privilege distinctly irregular. Telegrams, clerk hire and telephone calls were charged to H. O. L. C., which likewise provided the first stock of printed forms and took care of electrical installation, repairs, etc. Even office equipment and supplies came from the same source, although some office furniture and typewriters later were paid for.

After the organization had been nursed along by the Government for about two years, the Filene foundation seems to have taken over the financial burden. Since then it has paid all administrative costs, estimated to be at least $15,000 a year. That is why the director of Group Health can claim the association is out of the red. It has never actually paid expenses, according to the most reliable information available.

One of the doctors who resigned from the Group Health panel said that patients were so numerous they had to be driven through the clinic "like a herd of sheep." There were so many calls for service, many of them of a trivial nature, that members who really needed attention sometimes had to wait for six or seven days, he declared. Doctors saw from 40 to 60 patients a day. Clients had physicians and specialists assigned to them arbitrarily. Another observer found that some members called in their old family doctors when they had any serious illness, but retained their memberships in the association for fear of encountering official disapproval from superiors in their office. Publicly there was to be no coercion in obtaining members. Actually the employees were told it was important that they join. Of course, Christian Scientists and those who had relatives who were doctors would not be expected to sign up.

In this atmosphere so highly charged with stimulated emotion, the Department of Justice received a setback at the hands of the District Court in the A. M. A. case. But the legality of the indictment was sustained in the United States Court of Appeals. The Supreme Court has yet to say the last word.

Leading members of the Association contend that this decision, which places medicine in the category of a trade, is revolutionary in its implications. If sustained, it will make a dead letter of all professional codes of ethics.

When no professional body can discipline a member for ignoring its ethical standards, those standards can no longer be considered binding. Assistant Attorney General Arnold bases his case largely on the claim that one group of physicians attempted to prevent another qualified group from following their calling for a livelihood. The other half of his plea is that laymen—members of group health organizations—were unlawfully prevented from exercising a free choice of physician.

By this piece of legal reasoning, the attorney general committed that form of indiscretion colloquially known as "putting one's foot into it." In doing so he stepped squarely onto a political sore toe—the coercive tactics of union labor.

It is clear to any innocent lay mind that at no time has any medical society attempted to boycott or bar a group health doctor from continuing to practice his profession. The most they had done was to suspend one physician from membership and possibly to threaten similar disciplinary action in a few other instances.

On the other hand, some labor unions make no apologies for using every form of persuasion, including pick handles and sling shots, to keep any member or non-member from working for an "unfair" employer. By their code "swabs" have no right to work at any job a union man would accept. And free choice of the employer to hire anyone he chooses is seldom conceded where unions have the upper hand.

Prior to 1847 the codes of medical ethics in existence in this country were instituted by state or local societies, and in many, probably in most, of the states, there had been none. At the organization convention of the American Medical Association a committee, with Isaac Hays as chairman, was instructed to report a code of ethics. This report was unanimously adopted. Some changes have since been made. This American code was based on that prepared by the Englishman, Thomas Percival, in 1803, and in fact the phrasing is much the same. Percival's code of ethics was prepared for a son who was about to engage in medical practice, but who died before its publication. It was dedicated to another son then studying medicine.

Good ethics requires a social consciousness and a realization of one's fellow-physician's point of view. Too many laymen look upon ethics with scorn and suspicion and are apt to feel that it is medical ethics that balks them in what they consider their right to consult any physician at any time without the annoyance or embarrassment of properly and courteously dismissing the physician in attendance.

It is good ethics that makes pleasant the professional intercourse between physicians; that makes of the ethical physician one loved, admired, and trusted by his fellow physicians. Look about among the men whom you respect or know to be respected by the profession at large, and I promise you that man is one whose ethical conduct in his daily practice of medicine is all that it should be. You will hear no sneers and whisperings of ulterior motives about any of his acts. He may be stern and forbidding, or he may be lovable and sweet, but you will not hear quips and sarcastic innuendos, or insinuations about his motives. You will always hear him spoken of as a man who can be trusted not only with the confidences of the sick patient and his family difficulties, but also with the opinions of his fellow conferes. Defects of disposition, physical ailments, and flaws of character of those he comes in contact with will not be made a subject to be carelessly tossed from mouth to mouth.

Make the job the main thing while on it and when the necessity for a change arrives, take a vacation away from town.

Try to avoid hearing the mean things said about you and if heard anyway, try to forget them as soon as possible.

"By thine own soul's law learn to live
And if men hate thee, have no care
And if men thwart thee, give no heed
Sing thou thy song, and do they deed."

Give every patient the best attention possible, then forget it until seen again.

"He is happiest, most useful, and hence most successful who finds out what his community needs; and finding out these current needs, applies the most direct, economical and human methods to supply them."

Feeding Problems in Infancy*

H. L. SCALES, JR., M.D.
STARKVILLE, MISS.

MANY OF US believe that we have all the needed information on infant feeding. During the year 1939, in the thirteen counties comprising this society, we had 456 deaths of children under two years of age. Of this group 19 were dysentery and 55 diarrhea and enteritis; a total of 74 deaths which perhaps we could have prevented. Thus the figures show that we have a false sense of security in our knowledge.

It seems that the human mammary glands are becoming more and more inactive each year—both through choice and through necessity, and we are feeding a larger percentage of infants upon artificial food.

The susceptibility of the artificially fed infant is due principally to imperfect milk hygiene, rather than to any chemical, or biological difference between cow's milk and woman's milk. Thus I shall discuss the feeding problem of the artificially fed normal infant.

There are several factors in the selection of a formula. The first factor in the derivation of a formula is the determination of the caloric intake for the infant in a 24-hour period. For all practical purposes this is taken to be fifty calories per pound of body weight for normal health and development.

The second factor—how much shall we feed? The caloric value of cow's milk and human milk is 20 calories per ounce. Thus by dividing the total caloric intake by 20 we find the number of needed ounces in 24 hours.

The third factor—when and how often shall the feeding be given? No diabetic figures may be used and the physician is allowed a wide choice. Note that I say physician, as he and he only should give the feeding hours. The infant can be fed on a four-hour, three-hour, or even a two-hour schedule. I believe that the schedule be as convenient to the parent as possible. For this reason I use a four-hour schedule, which allows the mother sufficient time for other activities rather than constant care of the infant. The hours are usually 6-10-2-6 and 10 or they may be 7-11-3-7-11 for the family that goes to bed late. As you see the middle of the night feeding is omitted. I find that if the infant is of normal birth weight, seven and one-half pounds, then the night feeding can be omitted from birth. This four-hour schedule is suitable to about ninety per cent of the infants and one hundred per cent of the parents. Occasionally one finds a child that cannot get sufficient food to last four hours, and must use a three-hour schedule. After the infant becomes three or four months old then the 10 or 11 o'clock feeding may be omitted if the weight gain is satisfactory. The most important point of any schedule is that the infant is fed on the hour. His whole future health depends upon this regularity. This is a statement that should be made over and over to the parent.

With these three factors, if the baby weighs eight pounds then 50 times eight will give 400 calories needed in 24 hours; 400 divided by 20 will give 20 ounces per day; formula given five times per day indicates that four ounces will be needed for each feeding.

The fourth factor—the choice of milk, which is perhaps the most important factor. We have two general classes of food on the market, the so-called complete food and the incomplete foods. The complete food is a milk to which nothing need be added other than water and the incomplete food, to which various other food elements must be added.

First is cow's milk. This milk should be taken from a herd rather than from a single cow. It must not be kept over 24 hours and it should always be boiled. Sugar must be added and refrigeration is essential. Whole cow's milk is difficult to obtain in some communities, it is expensive, and great care is needed in its use. Whole cow's milk has 20 calories per ounce.

Second is exaporated milk—milk in which the water volume has been reduced to one-half. Sugar must be added. This milk is sterile, can be kept in the sealed can indefinitely, and its composition does not vary from can to can.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, Amory, September, 1940.

Evaporated milk can be obtained in almost any grocery store and is inexpensive. It is claimed that the opened can will keep without ice for 12 hours, however, I do not believe this a wise thing to do. This milk has forty calories per ounce. For all practical purposes this is the best milk to use in general practice.

Third—the complete foods such as dextrogen, SMA, Dryco, Biolac and many others. These products need only water to be added. Many contain vitamins A and D concentrate, iron, and other added minerals. At present I am using Biolac, a Borden product and with it I get excellent results. It is slightly more expensive than evaporated milk but it contains vitamin A and D concentrate, also B_1 and iron. This is one of the few products on the market that I believe contains sufficient amount of the vitamin products for normal health and development. All the parent need do is add water. Many parents are more than willing to pay a slight increase in price for the convenience in the use of the milk.

Fourth—products that are added to whole cow's milk or to evaporated milk. These are Dextri-Maltose, Mellins Food, Hylac and many others. Personally I do not use these products. I find that cane sugar—ordinary table sugar—is always obtainable and inexpensive, answers the purpose for the added carbohydrate.

Now a word of warning as to condensed milk. Condensed milk has a large amount of carbohydrates added and for this reason I do not believe that it makes good formula material. It will make wonderfully fat babies but they will succumb to the first mild infection. I have never seen a pediatrician that did not condemn this milk as a baby food.

Now we have all the factors for the formula. As an example the baby weighs twelve pounds. It needs 50x12, or 600, calories per day. Six hundred divided by 20 will give 30 ounces needed in 24 hours, or five feedings with six ounces to the feeding.

The formula:

15 ounces evaporated milk
15 ounces boiled water
1½ tablespoonful of cane sugar.

The carbohydrate is figured at 7½ per cent of the milk volume. One level tablespoonful of can sugar equals to one-half ounce. When the infant is newborn or is changed from the breast to the bottle it is always best to start with a diluted formula for the first few days before raising to full strength milk. In using evaporated milk, then the formula would be two-thirds water and one-third milk or in whole cow's milk one-third water to two-thirds milk. As soon as possible the strength should be raised to give all the caloric requirement. In cow's milk and evaporated milk, vitamins D and C must be added. Vitamin D in CLO or some of the concentrates and vitamin C in orange juice or tomato juice, one ounce of the first and two ounces of the latter.

Perhaps you do not feel that the preparation of the formula is the physician's part but many times you are the only source of information for the mother. All water used in the formula and in between the feedings should be boiled, and kept in sterile jars. This should be insisted upon despite the fact that you think the water supply may be safe. All bottles, nipples, measuring devices should be sterilized. There is a very inexpensive type of sterilizer on the market which is most satisfactory. Protect all utensils from flies. When these simple measures are explained to the mother then you cure your feeding problems before they occur.

The simplest type of feeding problem consists of a diarrhea or frequent watery, loose stools. The color may be greenish yellow or grass green, undigested fat curds may be noted. The child is fretful and irritable, there may be slight fever. Vomiting and loss of appetite may be present. In this type of digestive disturbance, no specific organism can be held responsible, however, a search should always be made for a causative agent, such as excessive sugar in the formula, parenteral infection, or enteric disease. The problem is met by increasing fluid by mouth. Give boiled water every hour except the hour preceding the feeding period. Do not give a laxative. A laxative causes an irritation of the gastro-intestional tract, drawing water into the tract. This dehydration of the tissues may be the slight change that is needed to put the infant into acidosis. If the infant is vomiting, then omit all liquids for six to eight hours. It is often wise to reduce the strength of the formula for several days. No medication is needed in this type of feeding problem.

Now we come to the same problem but with a marked increase in severity. There is marked dehydration, child may have a confusion, skin is dry, inelastic high fever. The patient appears critically ill. This patient has a good chance of being acidotic or even alkalotic if vomiting has been excessive. But since we cannot do acid base blood chemistry outside of the hospital, thus again we must be practical. We know that the child is acidotic because the kidneys are not functioning properly, there is a retention of the acid products in the body and the kidney has lost the power to concentrate ammonia. We must combat the dehydration. All of us can give fluid by hypodermoclysis or under the skin. Use normal sterile saline—no special apparatus is needed. Use a 20 or 50 cc. syringe with a 20-gauge needle. Put the fluid under the skin of the back after sterilizing with iodine or with iodine and alcohol. You can detach the syringe and refill. The fluid must be given slowly, but it will amaze you at the amount that can be given by this method. The amount depends upon the weight of the patient. Practically 10 cc. per pound of body weight are taken. Give part in one side of the neck and part on the other side. Place small pellets of cotton over the puncture wounds with a small piece of adhesive. This may be done twice daily. Another method of restoring renal function is to give 50 cc. of 10% glucose in the vein. This should be given slowly and followed by a clysis. You may give saline by mouth, one level tablespoonful to a quart of water. This gives a one-half N solution. The salts must be replaced in the body. Medication is usually confined to paregoric, 10 drops every three, two or four hours for tenesmus. Morphine may be given hypodermically for restlessness. The intestinal antiseptics are of little value.

The next problem is that of enteric disease or infection — dysentery typhoid, paratyphoids. The only one we need discuss is dysentery. The patient will present the same picture as just described with one exception, there will be blood and mucous in the stools. A point may be reached where the entire stool consists of blood and pus. Here again the dehydration must be combatted. This disease is caused by a specific organism resulting in ulcers in the colon and later in the lower ileum. We cannot feed the infant upon the basis of the diarrhea. Here is a disease that we know shall last two to three weeks and during that time the caloric intake must be maintained. We do not have any specific medicine for dysentery at this time. Opium may be used for the pain and tenesmus, the barbitals for restlessness. At present I am using a product which has just been placed on the market. We used it last year before it was offered to the public and have had very good results. The product is Mead's pectin agar dextrimaltose. It can be given as a jell or as a liquid to infants, it maintains the caloric intake, offers a bland residue. We use it on all types of infant diarrhea and have had formed stools in 24 to 72 hours. In older children other food may be offered with the medicine. Our present conception of bacillary dysentery is to maintain or improve the patient's natural resistance to overcome the disease.

The last problem is the allergic infant. Fortunately, we do not see many of this class. In the bottle-fed infant when the infant does not gain, has frequent gastro-intestinal upsets, vomits and finally has a frank eczema then we have the sensitive child. The problem is rather simple in view of the fact that the infant is only taking a few foods. A substitute must be found for the cow's milk. Some use goat's milk but this is rather hard to obtain. Another substitute is soybean preparation that has all the nutritional value of cow's milk and contains no milk protein. There are several of these products on the market. At present I am using Sobee, another Mead product which I find most satisfactory. A word of warning here—if the infant is sensitive to cow's milk he will retain that sensitiveness. I recently saw a four-year-old child that was having frequent attacks of urticaria. She had been found sensitive to cow's milk but in later years was allowed to return to milk. When milk and milk dishes were omitted from the diet the child had no more nettlerash.

Always give an infant one vegetable at a time until the degree of sensitiveness has been determined. For this reason I do not advise giving vegetable soup to infants, as it makes it most difficult to determine to what vegetable the child is allergic. When egg is added to the diet then allow only a small bit of yolk to be given daily. Often allergic conditions may be discovered without great upset to your patient. In older children allergic problems become one of skin testing and should be done by the specialists.

The greatest aid in preventing feeding problems in infancy is specific instructions to the patient. Write them down and give actual household measures. The greater care that is used in diet and in feeding instruction, then the less feeding problems you will have in your clientele.

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MISSISSIPPI'S PLACE IN THE SOUTHERN MEDICAL ASSOCIATION

Mississippi has always forged forward in the upbuilding of the Southern Medical Association since its origin. We have felt for many years that we are very much a nucleus of the whole. It is at this time that attention should be called to the fact that we are very much a driving power in pushing it forward in its development. The type of practice of medicine has improved in the South with the improvement of roads, cars, and our way of living. Likewise with such outstanding schools as Vanderbilt, Tulane, Emory, Tennessee, Baylor and many others which have attained the highest rank, have developed many outstanding men in our territory.

No one thing in the development of the S. M. A. has received such recognition as has the meeting sponsored by Dr. H. F. Garrison, Sr., of Jackson. This meeting is a group of outstanding doctors from the South and nation at large, as well as secretaries, editors and other officials of the Southern states medical associations. The meeting is off the record and for the purpose of each area or part of the country to talk about, explain or ask about local, state or national problems and thrash them out to the satisfaction of all concerned. Dr. Garrison is to be complimented on his foresight in the development of this program. This year he is calling together all the past chairmen of the Pediatric Section of which he is chairman at this meeting. I am sure that great good will also come of this meeting since he is a good organizer and hard worker in organized medicine.

I would like to call your attention to the representation that Mississippi holds on the scientific program:

Councilor: W. H. Anderson, Booneville.

Past Presidents: Felix J. Underwood, Jackson; W. W. Crawford, Hattiesburg; W. S. Leathers, Nashville, Tennessee (at time of presidency was residing in Jackson, Mississippi).

Chairmen of Sections: Harvey F. Garrison, Pediatrics, Jackson; John F. Lucas, Gynecology, Greenwood.

Secretary of Sections: H. C. Ricks, Public Health, Jackson.

Papers: Chairman's Address, H. F. Garrison, Sr., Jackson; Chairman's Address, John F. Lucas, Greenwood; Laryngotracheobronchitis, Van Dyke Hagaman, Jackson; The Value of Collapse Therapy in Mississippi, John S. Harter, Sanatorium; Miss. Valley Student Health Association, C. B. Mitchell, Vice-President, State College, Mississippi.

Discussions: Leon S. Lippincott, Vicksburg; Lawrence W. Long, Jackson; Temple Ainsworth, Jackson; D. V. Galloway, Jackson; Felix J. Underwood, Jackson.

Woman's Auxiliary to Southern Medical Association: Parliamentarian, Mrs. W. H. Anderson, Booneville; Councilor, Mrs. R. H. Clark, Hattiesburg; Past President, Mrs. J. D. Williams, Gulfport.

With such an outstanding representation from the state of Mississippi you can easily see how the meeting is by far one of the best, most balanced, and well attended of all meetings not of a national nature.

Let me urge you all that you take a few days away from your business and attend the Southern Medical Association meeting in Louisville, Kentucky, November 12-15, 1940. It will be a nice time of the year, a good place, plenty of genial hospitality in the state of fast horses and pretty women. Come on—let's go!

—L. W. L.

THE PRESIDENT ON STATE MEDICINE

President Roosevelt, in an address delivered at the dedication of the new $4,000,000 plant of the National Institute of Health, at Bethesda, Md., declared that "neither the American people nor their Government intend to socialize medical practice any more than they plan to socialize industry."

The Chief Executive held up the family doctor as a bulwark of the Nation and espoused a "partnership" of "federal, state and local health and medicine." "In American life," he said, "the family doctor, the general practitioner, performs a service which we rely upon and trust as a nation. No one has a greater appreciation than I of the skill and self-sacrifice of the medical profession. And there can be no substitute for the personal relationship between doctor and patient, which is a characteristic and a source of strength of medical practice in our land."

As to the "partnership," Mr. Roosevelt added that since passage of the Social Security Act with its health provisions in 1935, federal, state and local health and medicine "are co-operating more broadly than ever before." As a result, he said, the Nation is better prepared to meet "the public health problems of our emergency than at any previous time in the history of our country. Meeting these problems, the President asserted, is a part of preparing "total defense."

The above statement corresponds to the one made by Mr. Roosevelt in 1936. It was quite certain that the Republican candidate did not favor "state medicine." Now with both major parties favoring a continuance of free and democratic medicine, the medical profession should be encouraged and the people are to be congratulated. A national system of political regimentation in medicine would be most unfortunate for the people of our country. It has not worked for the good of the people in countries in which it has been tried. A democratic people should have democratic medicine. Thus far it has given the best service. But if democratic medicine is to live and to continue to serve it must be wide awake to its responsibilities. Medical service is not s universal as it should be. The medical profession has rendered a wonderful service, no profession has served the people better, but there is much more to be done. Many people are needing medical service who are not receiving it. The profession should know and recognize if it has the vision and the practical application to go up and possess the land of opportunity in the field of service. The profession should ever be inspired by the Creator of the laws of science and render its service in keeping with the Golden Rule.

For good fellowship and purely scientific papers open to one and all for discussion, the Southern Medical Association is not surpassed. Headed by Dr. Arthur McCormack, it holds its annual session Nov. 12-15, Louisville, Ky., a city rich in medical history and refreshing in medical atmosphere. Here is the home of Dr. McCormack, the dean in public health in this country; of Dr. Irvin Abell, the nation's most popular medical orator; of Dr. George Hendon (who spent his boyhood days in Booneville, Miss.), nationally known for his constructive work in surgery; of Dr. E. L. Henderson, a member of the Council of the Southern and president-elect of the Kentucky State Medical Association. There too is the great Baptist Seminary challenging the medical fraternity to hold to their ideal of unselfish service. Medical service applied according to Christianity is our chief security against state medicine. So, on to Louisville for information and inspiration.

November and December would seem to us to be the best time to pay your dues to your local medical society, county, district and state. You need organized medicine and organized medicine needs you. Never was it more important for the good of themselves and for the good of the people than now. We have practitioners who are most able and who are rendering fine service to their people who do not belong to their county or state society. But we believe they could render better service if they did line up with organized medicine and receive what it has to offer. We feel sure that they could help their fellow doctors, many of whom give very liberally of their time to carry on for the good of all. Some counties in the state are registering a hundred per cent membership. If one county can, then all could do so. Dr. A. Street, of Vicksburg, president-elect, is strictly on the job to increase our membership. He is working with the secretaries of the societies of the state and they together are going forward. Let us all catch the spirit and go with them and let Mississippi have the biggest membership it has ever had. As our older fellows in medical service fall by the way and our recruits become smaller, it behooves us to be more courageous and more determined to serve our people. Let us present a solid front with a hundred per cent membership in our state association. Dr. Street is at your command. Let him help you to make your county one hundred per cent.

We appreciate each and every one of our advertisers. They help us to publish the journal, which in turn is endeavoring to render a service. We trust that our readers will also trade with our advertisers.

Within the last few weeks we have enjoyed some very pleasant visits to medical societies. The Delta Society held its semi-annual meeting at Indianola on October 9. Indianolans look on their city as the capital of the Delta on account of its location. Dr. B. H. Higdon, the president, is a man of judgment, medical poise and integrity; Dr. Frank M. Acree, of Greenville, is the very efficient secretary; Dr. Hugh Gamble is the incoming president and Dr. J. D. Simmons, of Cleveland, is the president-elect. Dr. H. T. Smith, of McGehee, Ark., president of the Arkansas State Medical Association, was the guest speaker and his address was fine. He is a good thinker. Dr. G. J. Mancil, of Indianola, demonstrated his hospitality with an extra fine luncheon for several guests. The Woman's Auxiliary, headed by Mrs. G. E. Hart, had an excellent meeting also.

As an orator Mrs. Hart rivals Dorothy Thompson. The meeting closed with a fine barbecue. The next meeting goes to Belzoni. Dr. A. Street attended the meeting and spoke in the interest of an increased membership for the society.

With twelve to fifteen per cent less doctors in Mississippi than we had fifty-four years ago, a doubled population and with seventy-five per cent of the people in some counties receiving some form of government aid, our medical profession is faced with a serious problem. The small hospital out on the rural firing line is of the greatest importance in our medical economy. The per capita distribution of funds for the indigent sick is a noble effort for justice to the indigent sick in the country and a life-saving aid to the small hospital. The small hospital open to every doctor who is a member of his society is a great boon to democratic medicine, for it enables a large per cent of patients to have the doctor of their choice. The hospital constitutes a center of medical learning. It improves the doctor and at the same time brings medical service nearer the patient. The life of the small hospital must be guarded in order that modern medicine may be available to the rank and file.

You will note that there is to be a course in internal medicine in northwest Mississippi at an early date. This is under Dr. Kostmayer, of Tulane. The State Medical Association, the State Board of Health, Tulane and the Commonwealth Foundation are co-operating to make it possible. This time the doctor giving the course is to be available to doctors of the community a large part of the time so that he may see cases with the doctors in their offices or on calls. The practitioners should appreciate this valuable service and avail themselves of it. It is a great aid to them. The people are demanding that the doctor "keep up" now the very best he can. These courses are a great help to him in so doing. They also provide a fine experience for the doctor delivering the lectures and doing the consultations. No doubt he will be a better and a more practical teacher when he returns. He will also distribute much medical education as he picks up ideas from one doctor and carries them to another. Let us not fail to take advantage of this opportunity to learn.

Dr. Charles S. Miller, of Jackson, La., died Nov. 7, following a heart attack while on a visit to his brother, Dr. R. H. Miller, at Memphis. Dr. Miller was 52 years of age. He was born in Norwood, La., attended the University of Tennessee and Tulane University. He had been connected with the Louisiana institution since 1911, and was head of it for two years. He is survived by his wife, his mother, four brothers and one sister.

As we go to press we learn with the deepest regret the death of Dr. Quitman Newell, of St. Louis, president-elect of the Southern Medical Association. It is hard to associate death with a man of so much vigor and with such a volume of life. Dr. Newell possessed a master mind. He had a great capacity for work. Difficulties had no chance in his pathway and failure vanquished before him as a mist. He possessed a master surgeon's hand which was ever guided by human kindness and a friendly interest. He had been the author of a number of papers for our journal. We feel very deeply the loss of his warm friendship.

One of the nicest meetings we have ever attended was at Camden, Ark., on October 10. It was the meeting of the Fifth Councilor District. It is the home of Dr. R. B. Robbins, chairman of the council and an outstanding leader in medicine in Arkansas and the Mid-South. Dr. A. Street went with us to this meeting and read a splendid paper that was well received on "Duodenal Ulcer." This society certainly has a fine fraternity of doctors. They are wide awake and moving forward, they are mighty clever. The Woman's Auxiliary had a fine meeting at the home of Mrs. Robbins. We would like an invitation back to this meeting some time.

At the University of Mississippi the North Mississippi Medical Society held its quarterly meeting on Wednesday, October 16. Dr. D. C. French, of Water Valley, presided as president. Drs. Oschner and Burns from Tulane were prominent essayists at the meeting. Dr. A. Street was also on the program. We enjoyed the influence of the Medical School at Ole Miss, which is progressing under the able leadership of Dr. B. S. Guyton. The students and the faculty added much to the meeting.

At the business session Dr. Frank Ferrell, of Ashland, was elected president, and Dr. A. H. Little, of Oxford, returned to the secretaryship.

The banquet, which highlighted the evening, was ably presided over by Dr. P. W. Rowland as toastmaster.

The following correspondence may be of some interest to a few of this journal's readers.

Dear Dr. Bryan: I thought of you when reading an article in the current issue of the J. A. M. A. It must be interesting to you as well as to me to see the "pendulum swing back and forth." To this I replied as follows: Dear Dr. Naugle: Yes, it is interesting to me to note the shifting of opinion and teaching in medical matters. "We dig holes in the sand today to be filled with sand from holes to be dug tomorrow." The experiences of one man are not enough to satisfy the world, but that man is likely to feel that he knows what he has seen and done. I am not doing obstetrical work and do not expect to do any in the future. But I do know that veratrum is indicated in eclampsia and pre-eclamptic conditions. I also know how it works and that it is harmless as well as useful." This correspondence was concerning an article advocating the use of veratrum in treatment and prevention of eclampsia. This article may be found in issue of October 19, in J. A. M. A., beginning on page 1333. It is worth reading and weighing carefully.

On October 16, in company with Dr. H. M. Williams, I drove down to Gulfport. The occasion for the trip was that I might attend the two-day meeting of the Gulf Coast Clinical Society. The meeting was one of the very best of its kind. The program was excellent in that the lectures and papers presented met the requirements of the day. These were presented by men who are recognized as authorities throughout the nation. They covered a variety of subjects and were extremely practical, presented by men from nearly every section of the country. Among these might be mentioned Dr. J. S. Horsley, Dr. Duncan Eve, Dr. J. S. McLester and Dr. Camp. There were others of equal prominence. It is such meetings as this that makes it inexcusable for any doctor not to keep abreast of the progress of medicine. These meetings are being held in every section of the country and they bring postgraduate and modern teaching to our very doors. Why are all our doctors more concerned about the calls and dollars they may miss than they are about the quality of the service they render? Be this as it may, the opportunities for keeping abreast of the trend in medicine are wonderful and more abundant than they ever were before. Every hour of the time was filled with worth while things. The luncheon time two hours of each day was given over to round-table discussions of medical and surgical subjects. On Thursday evening a barbecue on the beach was followed Friday evening by a very gracious banquet on the roof of the Markham Hotel. Dr. Dubose, of Selma and Maplesville, Alabama, had been prevailed upon to be present and entertain us with his inimical negro dialect stories. Dr. Dubose is not only highly cultured and very popular personally, but he is a real artist as an entertainer. His health has been very poor for some years and, in consequence, he has abandoned active work, but his heart is young and responsive to the exigencies of his surroundings. It is hard to estimate the worth of such men.

The local members of this society exerted themselves to the fullest extent to make the occasion pleasant as well as instructive to all members and visitors. And their wives added much to the pleasure and success of the meeting. And I cannot refrain from mentioning Drs. E. C. Parker, the presiding officer, and D. J. Williams, and their wives. To me these four are more than friends. John Darrington, too, was there. There is none other like him. The 1941 meeting will be held in Pensacola. A new made friend, Dr. J. I. Turberville, of Century, Florida, will preside. Let us all go.

—G. S. B.

RED CROSS AND HARVARD STUDY WAR EPIDEMICS

SERVES HUMANITY
JOIN
American Red Cross

Answer the call to Mother Red Cross. She never fails her children.

Of particular interest to the medical profession in the far-flung Red Cross relief operations is the study of epidemics under war-time conditions in England which the Red Cross is conducting in co-operation with Harvard University. Joint announcement of this project was made August 18.

Under the agreement as worked out, the American Red Cross is furnishing a 100-bed hospital of the temporary or hut type, along with complete equipment, and also the nursing and non-professional members of the staff. The medical staff of the hospital is being supplied by the newly created Harvard Public Health Unit for field and laboratory work in epidemiology in Great Britain. Dr. John B. Gordon, professor of Preventive Medicine and Epidemiology, Harvard Medical School, is serving as director of the project.

A feature of the hospital, which is known as the American Red Cross-Harvard Hospital, is that it is of the pre-fabricated type, being made in this country, transported to England and set up there on foundations provided by the British Ministry of Health.

The project provides for three related undertakings, each essential to the effectiveness of the whole. These are:

(1) The study by a group of mobile investigators of epidemics and communicable disease under unusual or war-time conditions as they occur in the fields.

(2) The organization of a laboratory for the investigation of problems which arise from field studies and the observation of patients in the hospital.

(3) The establishment of an emergency type of hospital which will provide for the care of patients and which in connection with the laboratory will supply opportunity for the extended study of disease processes initially observed in field and laboratory.

The first two undertakings will be carried out by the Harvard Public Health Unit; the third by the American Red Cross-Harvard Hospital.

All war relief operations of the Red Cross are being conducted without interfering in any way with local chapter and national programs at home. These activities which are of primary importance, are supported almost in their entirety from the yearly dues collected from members during the annual Roll Call.

News and Comments

OFF THE RECORD GAVEL AND PEN CONFERENCE TO CONVENE AGAIN

(The following message is sent to eligible members of this conference by the chairman, Dr. Harvey F. Garrison, Jackson, Miss.)

Five years ago, after having been elected president of my state medical association, I felt very keenly the need of counsel from others who occupied similar positions of leadership. It was then that I conceived the idea of calling a conference of the presidents, presidents-elect, secretaries, and editors of the state medical associations in the territory, and at the time and place of the meeting, of the Southern Medical Association. I thought that others, like myself, would appreciate the opportunities afforded for an "off the record" discussion and interchange of ideas relative to the problems of the profession and, at the same time, avail themselves of the advantages to be obtained by attending the Southern Medical Association. By a unanimous vote each year, this conference has been made an annual affair. Each one has been well attended and has received the enthusiastic approval of both state and national medical leaders.

Just at this time when our profession is being maligned and criticised from many sources, it is apparent that there is a greater need for a multitude of counsel and wise leadership than ever before. My ambition is for these conferences to help the leaders solve their problems and, through them, give aid to our profession. I should like very much to have your opinion of having them from year to year. Do you endorse the idea of continuing them and, if so, do you have any suggestions for our next program? Please bear in mind that this conference has no official connection whatever with the Southern Medical Association or with the American Medical Association. It is intended for the purposes indicated above, and we, alone, are responsible for its discussions and activities.

The conference this year will be held in Louisville, Ky., Tuesday, November 12, at 6 P.M. May we have the pleasure of your cooperation and attendance?

EXTENSION PROGRAM ANNOUNCED

H. W. KOSTMAYER, M.D., Director

At the last meeting of the Committee on Postgraduate Medical Education of the Mississippi State Medical Association, it was decided that the next course in extension teaching in Mississippi would be Internal Medicine. The Committee also decided that while the lectures are important and should be continued, consultations between the instructors and the local physicians should be encouraged. Accordingly, it is now planned to have each lecturer spend five days in a center so as to make him available for visits with physicians and consultations with them.

Beginning Monday, November 4, Dr. W. A. Sodeman will spend five days in Tate, DeSoto, and Panola counties, and Dr. Julius L. Wilson will spend five days in these counties beginning Monday, November 11. Each physician will give a lecture on Monday, Wednesday, and Friday evenings at Senatobia and will be available for consultations at Senatobia for Tate County on Tuesdays, at Hernando for DeSoto County on Wednesdays, and at Batesville for Panola County on Thursdays. Monday and Friday will also be available for visits and consultations.

If you have any cases suitable for presentation to the group gathered for the lectures, it will be greatly appreciated if you will advise this office or Dr. W. D. Smith, who is local chairman in charge of arrangements. It is also hoped that you will make plans for having the instructors see interesting or difficult cases with you during their stay.

The sponsoring agencies have agreed on a registration fee of $5.00. Those paying this fee will receive a copy of the manual of the lectures given. As the success of this undertaking depends, to a very great extent, on its reception by the local physicians, your cooperation is earnestly solicited. A program of the lectures will be sent you in the near future.

The National Foundation for Infantile Paralysis held its first annual meeting on November. Thirty-eight outstanding doctors from all parts of the United States reviewed the progress reports of the Foundation's grantees, considered applications for new grants and discussed the problems of the respective committees, and formulated plans for additional work to be done during the coming year.

DR. QUITMAN UNDERWOOD NEWELL

PRESIDENT OF THE SOUTHERN MEDICAL ASSOCIATION

Dr. Quitman Newell, of St. Louis, the incoming president of the Southern Medical Association. He has a national reputation in the field of surgery and gynecology. A more dynamic personality is not to be found in the association than Dr. Newell. It will go forward under his direction. The Southern Medical Journal had the following to say about him on his election as president-elect:

Had the Association searched far and wide, by Gallup poll among medical profession and laity, for a popular man and most genial physician, Quitman Newell, of St. Louis, would have received the nomination.

The president-elect, chosen at the Memphis meeting of the Association to be its leader for 1940-1941, is Southern to the core. Few of his informal talks fail to mention the fact that he sprang from the Deep South which he still loves, and that pot liquor and brown corn pones are the real nectar and ambrosia of the gods, tomes on mythology to the contrary notwithstanding.

Born on a farm in Mobile County, Alabama, in June, 1886, near the town of Whistler, Dr. Newell was recently described in the MOBILE REGISTER, in a write-up of his election to the Southern Medical Association presidency, as the "country boy who came up the hard way." Born of parents of moderate means, the seventh of nine children, he had no silver spoon in his mouth, but forged his way upward by industry and native gifts.

Grammar school and two years of high school work in Whistler, Alabama, were followed by two years at Barton Academy, Mobile, from which he was graduated. Three years were then spent with the Mobile and Ohio Railroad as bookkeeper, stenographer and accountant, to obtain funds to enable him to study medicine. His medical course was taken at the Mobile Medical College, then the Medical Department of the University of Alabama, where an M.D. degree was obtained with honors in 1911. He went to St. Louis without an acquaintance in that large city; his personal application for an internship at Barnes Hospital of Washington University School of Medicine met with success; and up and up the ladder he climbed. Later he was appointed resident in the Department of Obstetrics and Gynecology under Dr. H. S. Crossen and the late Dr. Henry Schwartz.

He immediately decided to specialize in obstetrics and gynecology, and remained as resident in this department until 1914, when he was again promoted, and in succession has been Assistant, Instructor, Assistant Professor, Associate Professor and Professor of Clinical Obstetrics and Gynecology at the Washington University School of Medicine. The nickname "Quit" given to him in his childhood had no significance in his life, for his associates are agreed that he never learned the meaning of the word.

During the World War he served overseas as Captain in Evacuation Hospital No. 18, and saw much active service in France and Germany. He returned to his work in St. Louis, and was married in 1920 to Miss Katie Lou Kelley, of Whistler, Alabama. To them were born two children, Quitman, Jr., now 18 years of age, a freshman at the University of Alabama, and Doris, now 15 years of age, a junior at Mary Institute, a part of Washington University. Mrs. Newell died in 1924.

In addition to holding a professorship at Washington University School of Medicine, Dr. Newell enjoys an extensive private practice. He is outstanding in his specialty of obstetrics and gynecology in his city, state and the nation. He is on the staff of Barnes Hospital, St. Louis Children's, St. Louis Maternity, St. Luke's, Missouri Baptist and Missouri Pacific hospitals.

Among his many society memberships are

the Southern Surgical Association, American College of Surgeons, American Association of Obstetricians, Gynecologists and Abdominal Surgeons and the Central Association of Obstetricians and Gynecologists. He is a diplomate of the American Board of Obstetrics and Gynecology, and he served as general chairman for the annual meeting of the Southern Medical Association in 1935 in St. Louis and as its vice-president in 1936.

Among his various outstanding contributions to medical literature are his investigations on the ovulation period of human beings and the fertility period and nature of the ovum.

For recreation he enjoys on week-ends his beautiful farm near St. Louis, equipped with a large modern house, swimming pool and livestock of various kinds. He farms, fishes and hunts and maintains a 250-acre farm near Whistler, Alabama, where he specializes in the production of fine pecans. He has been both father and mother to his two young children, since their mother died practically in their infancy.

An alert, powerful looking man with a splendid carriage, ready wit, abundant general and scientific information and a broad tact capable of sensing any situation, Dr. Newell is always kindly and generous-minded even in the heat of debate. Idolized by rich and poor among his patients, a stimulating leader in his profession, he has been called by one of his early teachers "a woman's physician but a man's man."

DR. W. H. CLEVELAND

Dr. W. H. Cleveland, of Tupelo, president of the Mississippi Public Health Association, which holds its annual session in Jackson, Dec. 11, 12, 13, at the Robert E. Lee Hotel. The general sessions will be held in the morning and the sections in the afternoon. About ten out-of-state speakers are listed for the meeting. Dr. Cleveland is extending a cordial invitation to all health workers to attend and also all doctors who can.

Dr. W. H. Cleveland is director of the full-time health unit of Lee County, which is one of the very best in the state. He is one of the ablest public health leaders and in addition he is a broad-gauged citizen ready to help to build up a town or county in any way. The Association is honored in having him as its president. You can depend upon a good meeting with him as the leader. He expects to reach you with the full program in the next issue of the journal.

NEW DELTA SOCIETY HEAD

Dr. Hugh Gamble, of Greenville, Miss., president of the Delta Medical Society, one among the large outstanding medical societies of the state, and head of staff of Gamble Bros. and Archer which is now domiciled in a new medical arts building. The building is one of the most modern in the South and has just been completed at a cost for the building of fifty-two thousand dollars. In the new building offices and treatment rooms are provided for the entire staff composed of the following: Drs. Hugh and Paul Gamble, John Archer, state governor for the State College of Physicians, E. T. White, pathologist, C. E. Roach, pediatrician, E. T. Ellison, obstetrics, Gottlieb Marum, x-ray department, Chas. Berry, orthopedic surgeon, and W. L. Stroupe, dentist.

The second floor of the building is given to the library which is one of the most complete to be found in the state.

This organization with its commodious new home and elaborate equipment is certainly a credit to Mississippi's fastest growing city, to the state and to the South. It is good to see such a group of men with this big vision of service.

CHAIRMAN OF CONFERENCE

Dr. Harvey F. Garrison, Sr., Jackson, Miss., past president of the Mississippi State Medical Association, former member of the Council and now chairman of the Section on Pediatrics of the Southern Medical Association.

Dr. Garrison instituted the conference of presidents, presidents-elect, secretaries, and editors within the Southern Medical Association. This conference convenes each year at the time of the Southern but is no part of it, has no official connection with it. This conference has been of value in getting the doctors to thinking in terms of medical problems and their solution. The main subject to be discussed at the coming meeting will be: "Means of Increasing Interest and Membership in Medical Associations" under the following headings:

The value of visual methods and other modern trends in increasing interest and membership in medical association programs,

The importance of having a suitable personnel on medical program committees,

The possible value and advisability of employing full-time secretaries for medical associations,

The value of editors and medical journals in increasing interest and membership in medical associations and their true function to the association.

The meeting will be held at the Pendennis Club, Louisville, Kentucky, on Tuesday, November 12, at five-thirty P.M.

Dr. Garrison is initiating a luncheon for all the past and present officials of the section which is something new and will no doubt be of value in keeping up interest.

Dr. Harvey Garrison is a constructive thinker and a tireless worker. He has been a very active leader in his state association and in the Southern for a number of years. His influence is also felt in the American Medical Association.

APPLICATIONS CLOSED FOR TEMPORARY AND PART-TIME CIVILIAN MEDICAL OFFICERS FOR ARMY—DOCTORS NEEDED FOR OTHER MEDICAL POSITIONS

The Civil Service Commission announces that enough applications have been received to meet the prospective need for temporary and part-time civilian medical officers in connection with the Army expansion. Receipt of applications will close Monday, October 14.

The Commission calls attention to the fact, however, that there is an urgent need for medical officers and senior and associate medical officers to fill permanent positions in other agencies. Applications will be received until further notice. The positions pay from $3,200 to $4,600 a year. Fourteen specialized branches of medicine are included.

There is also an urgent need to fill junior medical officer positions at $2,000 a year at St. Elizabeth's Hospital, Washington, D. C.

Full information and application forms for these examinations may be obtained at the office of the Secretary, Board of U. S. Civil Service Examiners at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C., or from any of the Commission's district offices.

Suggested Program for the WOMAN'S FIELD ARMY of the American Society for the Control of Cancer in Mississippi

EMMA GAY, M.D., State Commander

1. ADULT EDUCATION: Must be done with lectures and talks by competent physicians and Army workers. Every organization—men or women—should have one lecture on cancer

during their year.

There are three great fronts of the war against cancer: research, treatment, and education. Without education the first two have but little immediate practical value. It is through education that the patient is brought to a physician in time to benefit by the progress in recent years in research and treatment. It must be remembered that despite this progress only early cancer can be cured.

Periodical health examinations—every man and woman should have one annually. It is an accepted fact that early detection of cancer or precancerous conditions and their prompt treatment is the greatest guarantee of safety from the disease. It is amazing that an immense amount of lethargy exists among the general public concerning this phase of cancer control. When we buy a new car and are told by the agent that it should be checked periodically we follow his advice in a high percentage of cases. When, however, we are told the same thing concerning our bodies for some reason or other we feel prone to ignore the advice.

2. Education in Schools: A program of talks on cancer in junior and senior schools, as well as in colleges, is of extreme importance to the movement. The students in these institutions are at an age where the cancer problems can be presented to them logically and impersonally either as a part of a general course on science or biology or as a separate address by a properly qualified speaker. A number of extremely successful attempts along this line have already been made. It is believed that members of the Women's Field working through parent-teacher associations and other organizations can further such programs in many parts of the state. In the presentation of the subject to students special emphasis is placed on the natural incidence of cancer and its essential biological nature as a growing process.

3. The third very important activity which can be performed by members of Women's Field Army under proper direction is a program of "follow-up" on hospital cases in communities. It is an unfortunate fact that all over the United States the records of the fate of cancer patients and of the program of the individual after treatment are sadly inadequate. The vast majority of hospitals do not have the funds or the personnel available to establish and maintain complete follow-up systems.

4. The preparation and financial support of exhibits of various types is another splendid objective for Women's Field Army units. A permanent exhibit with models, charts, and illustrations should be in every high school, college, museum and hospital in the United States. The national society is ready to provide guidance and suggestions concerning the contents of such exhibits which if established can be designated as a contribution from the Woman's Field Army. The renovation of such exhibits once established is also an important activity, since charts become antiquated and all the material needs freshening and replacement at times.

5. The raising of money for and contributing to the transportation, diagnosis and treatment of indigent patients is very necessary. In this connection the greatest care should be exercised to make sure that the medical advisory committee and the state or local medical society approve and administer the program.

6. A speakers' bureau and cancer committee in every medical society so that local units can get a speaker when they need one. The Army needs the backing of the medical profession in order to carry on its work.

7. Another definite applied phase or objective of the Field Army is the raising of funds for the support of clinics or hospitals. Here again the same precautionary methods must be employed as in the case of the previous objective. Because of the fact that the diagnosis and treatment of cancer is often a group problem, the support of clinics and hospitals where the principle is recognized is a sound and constructive aid to the control of cancer.

8. Cured cancer clubs, the members of which can present accurate evidence that they have been treated for cancer at least five years before joining the organization, can be obtained by the activity of the Woman's Field Army. The formation of such clubs means a great deal more for cancer control than their mere existence. As every one knows, one of the greatest enemies to cancer control is the widespread fear of the disease. The psychological advantage of the existence of groups of people who present evidence that they have been cured of cancer is a very great one. If the Army were actively interested in this problem tens of thousands of additional cured cancer

cases could be discovered.

9. The month of April has been designated by special act of Congress as Cancer Control Month. During this time the Army puts on its membership campaign. The quota for Mississippi is one member for every 150 persons. Through the press and talks over the radio, lectures and the distribution of our literaure we anticipate a successful campaign for members.

LIST OF APPROVED HOSPITALS

Official announcement of the 1940 list of 2,806 approved hospitals in the United States, Canada, and a few other countries, was made at the twenty-third annual Hospital Standardization Conference opening in Chicago in conjunction with the Clinical Congress of the American College of Surgeons. In making the advance announcement, Dr. Irvin Abell, of Louisville, chairman of the Board of Regents, and head of the advisory committee on health recently appointed to assist the Council of National Defense, declared:

"Health is always an important essential to the well-being of nations, and in a time of gearing for defense it is a vital issue. Hence the fact that we have 2,800 hospitals in the United States and Canada that are fortresses of defense against disease and disablement, because they are adequately armed and manned for the type of battle in which they are engaged, should give our people and our government assurance that in this field we are well embarked on a preparedness program. Yet since the approved hospitals represent not quite half of the total number, there is no occasion for complacency, but rather for intensified effort to improve hospitals generally."

Dr. Malcolm T. MacEachern, Associate Director of the College and in charge of its hospital activities, called attention to the fact that in less than a quarter of a century the number of approved hospitals has grown from 89, the total on the first list issued in 1918, to 2,806, which is evidence of remarkable progress, and added:

"Ten million people were cared for in our hospitals last year, meaning that one out of every thirteen individuals in the United States and Canada was at some time during 1939 in a hospital. Three million underwent major surgery. More than one million, or half of all births, occurred in hospitals. That is why communities and the medical profession are concerned about the standards of hospitals, since so many lives are entrusted to their care. Hospitals are engaged in a never-ending conflict against disease and death, and we must strengthen the fortifications to enable them to cope with the increasing problems incident to conscription in the United States and war service in Canada. The minimum standard can with the help of the community be met by every hospital that is conscientiously trying to serve its patients. The requirements, briefly stated, are:

1. Modern physical plant, assuring the patient safety, comfort, and efficient care.

2. Clearly defined organization, duties, responsibilities, and relations.

3. Carefully selected governing board with complete and supreme authority.

4. Competent, well-trained superintendent responsible to the governing board.

5. Adequate and efficient personnel, properly organized and competently supervised.

6. Organized medical staff of ethical, competent physicians and surgeons.

7. Adequate diagnostic and therapeutic facilities under competent medical supervision.

8. Accurate, complete medical records, readily accessible for research and follow-up.

9. Regular group conferences of the administrative staff and of the medical staff for reviewing activities and results so as to maintain a high plane of scientific efficiency.

10. A humanitarian spirit—the primary consideration being the best care of the patient.

The approved hospitals in this state follow. Those marked with asterisks (*) have accepted the minimum requirements and are endeavoring to put them into effect, but for lack of time or other acceptable reasons have not been able to do so in every detail. Those marked with a square are approved for graduate training in surgery and/or a surgical specialty by the American College of Surgeons. Those marked with a triangle are approved for training interns by the Council on Medical Education and Hospitals, American Medical Association. Those marked with a plus sign are approved for residences or fellowships.

MISSISSIPPI

Biloxi	
*New Biloxi Hospital	40
Veterans Administration Hospital	207
Brookhaven	
*King's Daughters' Hospital	42
Centreville	
Field Memorial Hospital	32

Columbia	
Columbia Clinic-Hospital	39
Corinth	
*McRae Hospital	50
Greenville	
King's Daughters' Hospital	114
Greenwood	
King's Daughters' Hospital	50
Veterans Administration Hospital	788
Hattiesburg	
South Mississippi Infirmary	75
Houston	
Houston Hospital	40
Jackson	
Jackson Infirmary	88
Mississippi Baptist Hospital	170
Meridian	
Meridian Sanitarium	45
Rush's Infirmary	76
Oxford	
*Oxford Hospital	35
Sanatorium	
Mississippi State Tuberculosis Sanatorium+	530
State College	
James Z. George Memorial Hospital	44
Tupelo	
North Mississippi Community Hospital	59
Vicksburg	
Vicksburg Hospital	62
Vicksburg Infirmary	54
Vicksburg Sanitarium	75
Whitfield	
*Mississippi State Hospital	3000
Winona	
Winona Infirmary	75

NATIONAL CANCER INSTITUTE

A two-day conference on stomach cancer opened October 11 at the National Cancer Institute of the National Institute of Health with an address by Dr. Thomas Parran, Surgeon General of the U. S. Public Health Service.

This conference—the first of its kind in America—is being sponsored by the National Advisory Cancer Council, headed by Surgeon General Parran, and is bringing together leading physicians and scientists for an intensive consideration of research and clinical problems relating to the control of cancer of the stomach. It was called on the recommendation of the Cancer Council's committee on the coordination of cancer research and grants-in-aid, of which Dr. George M. Smith, of Yale University, is chairman.

Dr. Parran's address this morning was followed by a discussion on cancer statistics and the hereditary and occupational aspects of gastric cancer. Dr. S. D. Collins, principal statistician of the National Institute of Health, U. S. Public Health Service, led the discussion and participants included Dr. C. C. Little, of Bar Harbor, Maine, director of the Roscoe B. Jackson Memorial Laboratory, and Dr. Madge Thurlow Macklin, of the University of Western Ontario Medical School, who discussed the heriditary aspects.

General participation on the part of all attending the conference will follow the presentation of each subject.

The opening session also included a consideration of the importance of early diagnosis of cancer of the stomach and the various means of making these tests. A paper dealing with this subject was given by Dr. Rudolf Schindler of the University of Chicago, followed by a discussion led by Dr. James Ewing and Dr. Gordon McNeer of Memorial Hospital, New York, and Dr. Max M. Zinninger of the University of Cincinnati.

At the afternoon session, Dr. Alexander Brunschwig of the University of Chicago presented a paper on the physiology and biochemistry of the stomach and discussion on this subject by Dr. A. C. Ivy of Northwestern University.

Dr. Harold L. Stewart of the National Cancer Institute gave the principal paper, followed by a discussion opened by Dr. W. U. Gardner of Yale and Dr. Egon Lorenz and Dr. M. J. Shear of the National Cancer Institute.

Speakers the second day included Dr. C. P. Rhoads, director of Memorial Hospital, New York, who reported on anemia and deficiency diseases in relation to cancer of the stomach; Dr. Mont R. Reid, professor of surgery, University of Cincinnati, told how cancer clinic material can be used for investigations; and Dr. Carl Voegtlin, Chief, National Cancer Institute, who conducted a discussion on a proposed program for the study of cancer of the stomach.

Other participants are: Dr. Leon Schiff of the University of Cincinnati, Dr. John J. Morton, of the University of Rochester, Dr. A. R. Dochez of Columbia, Dr. Walter C. Alvarez of the Mayo Foundation, Dr. Shields Warren, Harvard Medical School, and Drs. M. C. Winternitz and A. W. Oughterson of the School of Medicine, Yale University.

All the sessions were held at the new National Cancer Institute building at the National Institute of Health near Bethesda, Md. The cancer research laboratories, erected last year at a cost of $750,000 are considered the most complete in the world and participants in the conference were given an opportunity to inspect the laboratories and the cancer research work now in progress at the Institute.

AMERICAN COLLEGE OF SURGEONS ANNOUNCES LIST OF APPROVED CANCER CLINICS

Official announcement of the 1940 list of 345 institutions in the United States and Canada which are conducting approved cancer clinics was made on Monday, October 11, at the thirtieth annual Clinical Congress of the American College of Surgeons in Chicago. Of hospitals of 100 beds or greater capacity, 23 per cent now have this specially organized, approved service for cancer patients. There has been a steady growth in the number of institutions conducting approved clinics from 100 in 1932, when the first list was announced, to the present figure of 345, which is 38 more than last year.

Dr. Irvin Abell, of Louisville, Chairman of the Board of Regents of the College, in making the announcement, said that 78,000 patients benefited by group consultation in the 345 approved cancer clinics in 1939. This means, he said, that pathologists, internists, radiologists, surgeons and other specially-trained personnel worked together in diagnosis and treatment for the benefit of the patient. He stated, however, that the approved clinics by no means constitute the entire resources available, since many other institutions have facilities but lack the organization of the staff that is most effective for progress in the battle against cancer.

The college has set up a minimum standard for cancer clinics in hospitals which stipulate the requirements as to organization, conferences, reference of patients to the clinic, equipment, records, and treatment. One of the great advantages of proper organization is the accumulation of records kept in a uniform way so that results may be compared and studies made to determine the most promising methods of treatment in the many different kinds of problems that the complex group of diseases known as cancer presents. Follow-up after a patient has left the hospital is especially stressed in the record system. From such records the college has gathered in its archives data that show more than 30,000 five-year cures of cancer. With more and better organized facilities, it is expected that the records of cures will be greatly increased.

The goal that the College has set in encouraging the formation of cancer clinics, according to Dr. Bowman C. Crowell, its associate director and head of the department of clinical research, is to bring organized facilities within reach of every person seeking diagnosis and treatment. He believes that this will be accomplished when 40 per cent of all hospitals having 100 beds or more have such clinics. Since 23 per cent now have approved clinics, the goal is more than half way attained. With clinics more easy of access, patients are coming earlier for diagnosis and the probabilities of cure are thereby greatly enhanced, Dr. Crowell declared.

The approved cancer clinics in this state, or province, follow. Those which are marked with an asterisk (*) are provisionally approved, not yet having fully met the requirements but with preparations under way to do so.

Institutions Conducting Approved Cancer Clinics

MISSISSIPPI

Greenville
*Drs. Gamble Brothers and Archer Clinic
Vicksburg
*Vicksburg Hospital

NATIONAL HEALTH LIBRARY

The National Health Library, which completed two decades of service this year, announces its removal from the RCA Building in Rockefeller Center to 1790 Broadway, New York City. Since its establishment twenty years ago, this library has brought together one of the best collections of source material in the United States on public health, sanitation, health education and related subjects. It includes 6,000 volumes and 30,000 pamphlets. More than 500 medical and public health periodicals are received regularly from all parts of the world.

THE GEORGIA PEDIATRIC SOCIETY

The Scientific Committee of the Georgia Pediatric Society wishes to announce that its Annual Scientific Meeting will be held in Atlanta on December 12, beginning with a luncheon at 12:30 P.M. and an afternoon and evening session.

The following nationally known physicians will appear on the program:

Lee Edward Farr, M.D., Director of Research of the Alfred I. DuPont Institute, Wilmington, Delaware, will speak on: The Prognostic Value of Renal Function Tests in Nephritis, and the Role of Diet in the Therapy of Nephritis.

Samuel Zachary Levine, M.D., Professor of Pediatrics, Cornell University Medical College, New York, will speak on: The Handicaps of Prematurity and How to Meet Them, and Water and the Growing Organism.

Edward F. Bland, M.D., Instructor of Medicine, Harvard Medical School and Assistant Physician, Massachusetts General Hospital, Boston, Massachusetts, will speak on: The Manifestations of Rheumatic Fever in Childhood, and the Course of Rheumatic Heart Disease in Childhood and Adolescence.

The Dyer, Lake and Crockett Counties Medical Society met at the Dyer County courthouse Nov. 6. A very interesting program was rendered. Those appearing on program are Drs. E. G. Kelly and C. H. Heacock, of Memphis, Drs. J. B. Cochran and J. Paul Baird and W. E. Anderson, of Dyersburg, Dr. J. W. Oursler, of Humboldt, Dr. J. O. Barker, of Trenton and Dr. J. L. Dunavant, of Ripley.

Dr. Charles C. Burlingame, chairman of the Committee on Public Education of the American Psychiatric Association, announces the organization of twelve regional districts, each headed by a nationally known psychiatrist, to cooperate with the press and to foster the dissemination of sound psychiatric information to the public. Dr. Newdigate M. Owensby, Atlanta, Ga., is chairman of the Southern district.

The American Conference on Industrial Health will be held Thursday, November 14, at the Towers Club in Chicago. The conference will be sponsored by the American Association of Industrial Physicians and Surgeons, a 25-year-old organization.

The Mississippi Public Health Association will hold its annual meeting on December 11, 12 and 13 at the Robert E. Lee Hotel, Jackson.

Dr. Howard B. Williams announces that he will continue the practice of the firm of Drs. Gaston & Williams, 301 Medical Arts Building, Birmingham, Ala. His practice is limited to proctology.

COMING MEDICAL MEETINGS

Southern Medical, Louisville, Ky., November 12-15.

Southern Surgical Association, Hot Springs, Va., December 10-12.

American Medical Association, Cleveland, June 2-6, 1941.

Mississippi State Medical, Biloxi, May 13-15, 1941.

American College of Physicians, Boston, April 21-25, 1941.

Tennessee State Medical, Nashville, April 8-10,1941.

Arkansas Medical Society, Little Rock, April 14-16, 1941.

Deaths

Dr. James T. Longest, age 67, died at his home in Beckham on Oct. 24. After receiving his degree, Dr. Longest practiced in Forest City, Arkansas, for a number of years. He was forced to retire about 25 years ago on account of ill health. He is survived by his wife, two daughters and one son, one sister and three brothers.

Dr. Dan H. Fondren, of Maben, died in the Houston hospital on Oct. 20. Dr. Fondren was 72 years of age. He began his practice of medicine in Winston County, later moving to Maben where he had resided for forty years. He was a member of the Presbyterian Church, Masonic Lodge and the Three-County Medical Society. Surviving are his wife, one daughter and one son, three sisters and two brothers.

Dr. Lee E. Biles, 67, prominent physician and a resident of Augusta, Ark., for 30 years, died at a Searcy hospital on Oct. 15. Dr. Biles was born in Rosebud, White County, Dec. 11. 1872, and graduated from the Louisville School of Medicine in 1897. He was an active member of the First Baptist Church, having served as deacon for 21 years. He was a member of the Woodruff County Medical Association, the Arkansas State Medical Association, the Arkansas Consistory and the Scimitar Temple A.A.O.N.M.S. He is survived by his wife, two sons and one daughter.

Dr. A. G. Clyne, 65, died at his home in Paragould, Arkansas, Oct. 21. Dr. Gould was a native of Canada and spent three years in Nebraska and Dakota territory before moving to Greene County in 1881. He was a graduate of the Hospital College of Medicine at Louisville, Ky., class of 1889. He established the first Jersey herd in Greene County in 1897. He worked for the city of Paragould during the smallpox epidemic in 1901. He was chosen third vice-president of Arkansas Medical Society in 1904 and served as a member of the United States Volunteer Medical Corps during the World War. He is survived by two stepdaugnters, who reside near Paragould.

Dr. John Washington Barber died at his home in Edwards, Miss., Nov. 2. Dr. Barber was born at Desotoville, Ala., Jan. 17, 1850, graduated from Medical School in 1884, began practice of medicine in Mississippi in 1885. He received his medical education at Louisville Medical College, Louisville, Ky., and had practiced in Port Gibson, Gulfport, Laurel, Edwards, Terry, Lake and Yokena, Miss. He was a member of the Mississippi State Medical Association. He has been retired for a number of years.

Dr. D. H. Fondren died at the Houston Hospital, Oct. 13, 1940, of heart trouble. Dr. Fondren was born at Sturgis, Miss., May 17, 1869, and was educated at Memphis Hospital College. He had practiced medicine at Maben for a number of years.

Dr. Henry Ledbetter Flake died at the King's Daughters Hospital, Greenville, Miss., on Sept. 29, 1940. Dr. Flake was born in North Carolina, July 14, 1863, and received his medical education at Kentucky School of Medicine, Louisville, Ky. Dr. Flake practiced at Shaw before moving to Leland, where he was living at the time of his death.

Dr. W. A. Smith, of Hollandale, Miss., died October 6 at King's Daughters Hospital. Dr. Smith was 58 years of age. He is survived by his wife, two sons, three brothers and a sister.

Sympathy is extended Dr. W. H. Banks, of Philadelphia, in the loss of his wife, Mrs. Annie Webb Banks, who passed away October 6. Three children, a sister and three brothers, survive.

Dr. Samuel A. Scott, aged 87, died at the Vicksburg Sanitarium, October 15. Dr. Scott was born in Evergreen, La., graduated in medicine at University of Louisville in 1876. He had been a resident of Eudora, Ark., since 1880, and had made many contributions to Eudora. He is survived by his wife, Mrs. Forestine Scott, and one son, Dr. Ernest Scott, of New York City. He was a member of the Methodist Church, and was past master of the Masonic Lodge for 60 years.

TUBERCULOSIS ABSTRACT

Epidemiological Trends of Tuberculosis

The epidemic, tuberculosis, is "young" when it makes its first encounter with a population; it "matures" when its contact has become fairly universal for a few generations and it is "old" when the population as a whole has become sufficiently resistant to its ravages that the death rate falls rapidly. Earliest childhood, maturity and senescence of tuberculosis are represented by the early invasion by tuberculosis of certain African tribes and a group of American Indians, the American Negro and our white population.

Wherever tuberculosis strikes first, it is in primitive societies. By "primitive" is meant a society previously not or hardly in contact with the occidental civilization and a society that for a long period has lived in essentially unchanged, settled conditions—a population without history in the common sense of the word. Tuberculosis never comes alone to an untouched population; it always comes accompanied by, and rather through, agents of occidental civilization. It is, therefore, always associated with profound changes and disturbances of tribal life. These changes play a most significant role in shaping the epidemic features.

Borrel reports that a portion of Senegalese troops were tested with tuberculin upon arrival in France during the last war, and only 4% to 5% reacted. Many of these men were observed at a later date as tuberculous patients and on the autopsy table. The general picture was about as follows: Following a certain period without evident clinical symptoms, during which swellings of supraclavicular and tracheobronchial lymph nodes can be observed, the disease develops rapidly with toxemia, high fever, weakness and multiple organ involvement, which in 70% leads to death. At autopsy, diffuse caseation of multiple groups of lymph nodes is dominant in 70% to 90% of the cases. One-fourth of the patients died of generalized miliary tuberculosis and, in a large proportion of the remainder, diffuse caseous foci were present. Here is a form of disease characterized clinically by the predominance of systemic over local symptoms, by the rapidity of its course and its high fatality. The characteristics are generalization, diffuse caseation and the absence of reparative processes.

However, the majority of Senegalese neither acquired nor died of tuberculous disease and it is safe to assume that many healthy reactors returned to Africa, proving their resistance to tuberculous infection.

A somewhat later stage, that of practically universal infection, is represented by an epidemic among certain Indian tribes of the Canadian plains. Following a period (1850-1880) in which there were only sporadic cases of tuberculosis, the epidemic reached its height between 1884 and 1890, during which time one out of three Indians had visible lymph node swelling and by 1906 about 20% of the school children in Qu'Apelle were operated upon for tuberculosis nodes. The death rate rose from 1,000 in 1881 to 9,000 in 1886, falling to 2,000 in 1901, to 1,000 in 1907, and following the establishment of anti-tuberculosis work in 1930, it reached 270 in 1931-32.

The most complete epidemiological studies of tuberculosis in a relatively primitive society were made on the South African tribes that provide the laborers for the mining industry in South Africa. These studies are reviewed by the author. He points out that the epidemiological picture of South African natives is not a uniform one as these natives have been observed under three different living conditions, namely, in their native villages, during labor service in mines and during war service in France.Hence, observations limited to only one of the three localities would lead to an incomplete and biased impression.

A more mature stage of the epidemic is illustrated by tuberculosis as it occurs in the American Negro. The tuberculin index is higher than in the white American, the death rate about three times as high and the peak of the age incidence is at an earlier age. Furthermore, the shift of this peak toward older age groups, while pronounced in the white, is negligible in the Negro.

Many Negroes show the same chronic localizing type of disease as the whites, but relatively acute forms, generalizations in the form of lymphatic and hematogenous spread occur with much greater frequency in Negroes than in whites. This was demonstrated by the author in a previous study and in order to confirm these findings, he calculated the ratio of deaths from all forms of tuberculosis to deaths from disseminated tuberculosis, separately for the two races. The figures derived from the United States mortality statistics show that the relative frequency of disseminated forms is considerably higher in Negroes and that the decrease of disseminated forms during the last 17 years is much smaller than in whites.

Several studies of tuberculosis among Negroes and whites under identical or similar living conditions, show that while the morbidity rates are closely similar, the mortality rate for the Negro is about four times higher than for the white. One writer concluded that the chances for colored children (in Baltimore) to become infected in a tuberculous family are about equal to those of white children under similar circumstances, but the chances of dying from tuberculosis are three times greater in Negro than in white children.

Lack of space prohibits quotation of the author's discussion based on his observations but the following points stand out:

In the early phases of tuberculosis the disease is acute, rapidly fatal, generalized, without tendency to heal, with toxemic symptoms overshadowing local symptoms and has a predilection for the young.

No nation or tribe free of tuberculosis has a uniformly high susceptibility to tuberculosis. The complete lack of resistance in so-called virgin soil is a myth. The individual degree of resistance and the collective frequency of the disease are not simply matters of interplay between host and bacillus but they are profoundly influenced by living conditions in the widest sense of the word.

The most spectacular decrease in tuberculosis mortality occurred, as a rule, before any organized campaign against tuberculosis could be initiated. However, anti-tuberculosis work is undoubtedly effective in later phases of the epidemic.

The South African report makes it clear that previous infection did, in no noticeable way, modify or alter tuberculous disease that developed later. A primary infection in a not high resistant stock produces allergy without causing immunity.

There is no shred of evidence to show that immunization is transmitted by heredity. The elimination of the least resistant strains must undoubtedly play an important role in the gradual attenuation of tuberculosis, particularly so in the early phases of the epidemic.

Tuberculosis mortality parallels the socio-economic conditions, so much so that it would seem that poverty and unusual stress and strain should be the guide posts for case-finding programs.

BOOK REVIEWS

Dr. Colwell's Daily Log for Physicians, published by Colwell Publishing Company, Champaign, Illinois. Price $6.00.

The Daily Log consists of blank forms arranged with great care for brevity, ease of understanding, accuracy and comprehensiveness. It is a complete system of financial records with the exception of a ledger. The daily page consists of 36 lines to accomodate the number of patients, the hour, name of patient, service rendered, charge, cash or credit on account, all recorded on one line.

In addition to the daily page there are sheets especially printed for a monthly business summary, expense sheets 1 and 2, personal accounts, special records, and the annual summary.

The Daily Log is a convenient, concise, practical method for any doctor to keep his financial records with a minimum effort.

Office Urology, by Dr. P. S. Pelouze, is just off the press. The book also has a section on cystoscopy. Dr. Pelouze is Assistant Professor of Urology, University of Pennsylvania, in addition to many other positions that indicate his ability. The book is composed of 766 pages, carries 443 illustrations with 19 of them in colors. Published by W. B. Saunders, Co.. Philadelphia. Price $10.00.

The idea behind this book is unique. It is a departure from the beaten paths and is an effort to give something dependable and practical to supply a long need. We are sure that both author and publishers deserve much credit for this book and that it will pay them in terms of satisfaction if not otherwise.

The discussion of office arrangements and all the details within is most interesting and enlightening. It takes up the anatomic structure and physiologic function of the urogenital tract, then gives full space to history-taking, examination of the patient and office laboratory procedures. The information on laboratory procedures is most helpful.

The author takes up general diagnostic methods in a logical manner with splendid explanations, as he did urogenital symptoms. The colored pictures under general methods are most helpful; likewise, the description of instruments and how to use them.

Under treatment it would seem that no one practical thing is left out, local treatment, general medication, diet, vaccines, et al.

Diseases of each organ of the urogenital tract are taken up in detail step by step with a discussion of diagnosis, pathology and treatment. The sexual problem is given full consideration in this volume and so are cystoscopy and roentgenography. This book will not only be most valuable to the specialist, it will be helpful to both general practitioner and general surgeon.

The Practice of Medicine by Jonathan Campbell Meakins, M.D., LL.D., Professor of Medicine and Director of the Department of Medicine, McGill University; Physician-in-Chief, Royal Victoria Hospital, Montreal; Formerly Professor of Therapeutics and Clinical Medicine, University of Edinburgh. Published by The C. V. Mosby Company, St. Louis, Price $10.00.

This volume was written primarily for the student and practitioner to assist in the diagnosis of the daily problems. It is not encyclopedic or for the specialist but covers the same field other textbooks of medicine do but with important differences in presentation. Since to the patient disease consists of the symptoms it causes they are actually the most important and earliest manifestations of disease. The author recognizing this has given them particular prominence describing and explaining their causative factors and their significance.

Another departure from the usual curtain in textbooks of medicine is his frequent use of illustrations. He has inserted 562 illustrations, including 48 in color, which have enhanced the value of this book tremendously.

The newer developments such as chemotherapy in the pneumonias, the role of vitamin K in hemorrhagic states of hepatic diseases, are covered in the third edition of this text.

FOR SALE

Used Microscopes, Sterilizers, Bloodpressures, Suction Pumps, Quartz Lamps, Short Wave Apparatus, and Laboratory Equipment. Trade-in accepted. Everything Sold on a Five-Day Approval. Write for information. Atlas Surgical, 175 Second Ave., N. Y.

Mississippi State Medical Association

Organized 1867 **Next Meeting: May, 1941, Biloxi**

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Program:
Surgery—V. B. Philpot, Houston
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Felix J. Underwood, Jackson
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W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	James C. Rice, Natchez	Fred Geisenberger, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. T. Thornhill, Crosby	D. H. Thornhill, Crosby	Second Thursday 7:30 p. m.
Central Medical	W. H. Watson, Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Om July and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	W. H. Williams, Tunica	L. B. Austin, Rosedale	1st Wed. March and Sec. Wed. No
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. B. O'Mara, Biloxi	D. L. Hollis, Biloxi	
Delta Medical	B. H. Higdon, Sunflower	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Marshall		W. T. Harper, Fayette	
Newton	W. L. Henton, Decatur	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley,	A. H. Little, Oxford	Third Wed., Jan., April, July, Oc
Northeast Miss.	J. T. Senter, Fulton	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	J. H. Windham, Ecru	E. B. Burns, Pontotoc	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal,	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, De
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	E. M. Butler, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EYE

MANAGEMENT OF RECURRENT TRACHOMA FOLLOWING SULFANILAMIDE THERAPY, William L. Cooper, M.D., Archives of Ophthalmology, Vol. 24, No. 3, September, 1940, pp. 467-472.

The author has brought up a subject which is most pertinent to ophthalmologists at the present time. Trachoma has been treated with sulfanilamide for the past three years and at the present time each essayist tells of his wonderful cures and very few speak of the incomplete cures or relapses. The author reports 62% relapses in a series of 34 cases of trachoma after being treated with sulfanilamide in the accepted manner. Most of the relapses occurred within six months after having been completely cured with sulfanilamide. The author, after some experiment work on corneas of rabbits with iontophoresis, applied it to the 16 cases of trachoma that had had a relapse following a cure with sulfanilamide. He used a solution of 1:200 to 1:100 dilution of quinine bisulphate. The felt-covered positive electrode was soaked in this solution and placed under the lid and up to the conjunctival fold. The indifferent electrode is placed under upper part of back of neck. Treatments were given every week for an average of 10 weeks. The duration of the treatment was 2-4 minutes with galvanic current of from 2 to 3 milliamperes per square centimeter of positive electrode surface. At the end of the sixth treatment complete regression of the follicles can be expected. The author also advises that greater tissue response is obtained if the patient takes vitamin A in the form of plain or emulsified codliver oil. His results show that of the 16 cases that iontophoresis was used after sulfanilamide, none had a second recurrence in the following two years. He suggests that the proper treatment of trachoma be sulfanilamide and after an apparent cure, use 8 applications of quinine bisulfate by iontophoresis as a prophylactic measure against recurrence.

—S. S. McN.

PEDIATRICS

THE TREATMENT OF CONGENITAL SYPHILIS. (Southern Medical Journal, 33:691, July, 1940).

This is quite an interesting article on the treatment of congenital syphilis by continuous alternating courses of sulfarsphenamine and bismuth. While the authors present only a very small series of cases, their plan of diagnosis, prevention and treatment is well founded. They did not undertake a comparative study of the various plans of treatment. Their suggestion that all offspring of mothers who present serological and clinical evidence of syphilis should have blood Wassermanns made every month for the first five months of life, and at the end of that time a spinal fluid Wassermann should be obtained before declaring the infant non-syphilitic is a good one and should be practiced by all of us.

The development of any suspicious manifestations of lues in the infant is sufficient justification for continuous antiluetic treatment regardless of serological reactions. It is also well founded that the treatment of congenital syphilis is entirely effective both serologically and clinically, when instituted early and applied intensively in full dosage of sulfarsphenamine and bismuth for a minimal period of one year.

It is suggested that the older the patient at the time of discovery of the prenatal syphilitic infection, the greater is the difficulty in obtaining a serological response to treatment; however, clinical improvement is anticipated at any age in childhood.

The absence of clinical signs should never be accepted as sufficient grounds for discontinuing further investigation for the presence or absence of syphilis in the newborn when it is known that there is even a suspicion of parental infection. After a comparison of the results obtained by the use of other arsenicals, such as stovarsol and others, it is concluded that the successful treatment of congenital syphilis is dependent largely on the amount rather than the type of arsenical administered. It is obvious to say that any treatment must have the provision that it should be continuous, and courses of bismuth are alternated with courses of the selected arsenical.

COMMENT: This is quite an interesting article and should receive consideration at the hands of all types of practitioners of medicine.

—H. F. G.

PUBLIC HEALTH

PREVENTIVE ALLERGY IN INFANCY AND CHILDHOOD, Albert V. Stoesser, Journal Lancet, 60: 433-438, October, 1940.

"A new idea has appeared in connection with the development of allergic diseases. It is referred to as preventive allergy." Children present a more encouraging situation than adults, the author points out, and where the tendency to allergic conditions is inherited, there are several things which may be done to alleviate the discomfort and disabling effects such conditions produce. While there is much yet to be learned regarding causes of allergy, the most certain knowledge had today is that it is usually inherited. It has been stated that by the tenth year of life allergic symptoms have appeared in 89 per cent of the offspring under a bilateral hereditary influence, in 35 per cent of those subject to a unilateral influence, and in only 20 per cent of those with a negative allergic history in immediate members of the family. The greater the hereditary influence the earlier are symptoms manifested, and the earlier in life the individual becomes sensitive the greater the tendency to multiple sensitization.

Since there is knowledge that infants and children inherit the ability to react to some substance in the diet or in the environment if their parents have or have had allergic disorders, the author cautions that if the child is kept away from suspected irritants there is a good chance that allergic manifestations will not develop. The following warnings and suggestions are given as constituting preventive allergy of today:

"Why feed the infant a wheat cereal when wheat is known to cause so much eczema in early life? It is best to start out with rye, rice and barley cereals. Eggs can cause hives of various forms. Too much milk, especially raw milk, is bad for the baby or young child who has an allergic background. Certain vegetables can also cause trouble. Beans, peas, potatoes, tomatoes, celery, lettuce, cabbage and carrots have all been able to produce allergic reactions in the early years of life. Sometimes orange, grapefruit, peach, pear, or strawberry upset the infant or child, leading eventually to some allergic condition as hives or eczema. The habit of flavoring milk with chocolate or cocoa is a poor one for children who come from allergic manifestation such as a slight reddening and roughening of the skin which may be the forerunner of eczema.

"There are also the inhalants. No child who has had or has eczema should go near any farm animals. The child can very easily become sensitive to horse dander. The same thing holds true for the goat, cow, hog, sheep and rabbit. Any one or all of these animals may be a menace to the allergic child. Household pets should never be permitted if there is any indication that the child will become sensitive to them. Many thousands of children have developed severe asthma in this country because of their close association with dogs whom they consider as their pals. The feather pillow can easily cause asthma or the feather dust can irritate the lining of the nose so that each morning the child may sneeze. There may be a watery nasal discharge with obstruction. Breathing through the nose is difficult and the individual is considered to have an infection. In fact, the parents believe that the child has just one 'cold' after another."

The wide prevalence of allergic disorders and the complications which frequently follow present a problem deserving the utmost study and attention. Physicians may contribute much to human welfare and comfort by instituting measures of prevention wherever possible to reduce the incidence of allergic cases.

Dr. Stoesser includes in this article an excellent list of the more common excitants of allergy.

UROLOGY

Hypertension in Unilateral Renal Disease, W. F. Leadbetter and Carl F. Burkland, Journal of Urology, May, 1938.

Recently attention has been directed to the experimental production of hypertension in animals by various methods involving injury to the kidneys and interference with their blood supply. The most satisfactory experimental method appears to be that of Goldblatt and co-workers who showed that partial constriction of one renal artery in dogs results in a moderate rise in blood pressure which tends to return to the level of the control period. Partial constriction of both renal arteries leads to the production of a marked hypertension which is maintained indefinitely. In addition they showed that partial constriction of other arteries (splenic and femorals) does not result in any rise in blood pressure. These experiments seem to prove that the fundamental factors in the production of experimental hypertension involve interference with the renal circulation alone. Lately, in a comprehensive article on experimental hypertension, Goldblatt states that "excision of the ischaemic kidney at the height of hypertension which follows the construction of one renal artery is followed by prompt return of the blood pressure to normal." This suggests another possible explanation for certain cases of hypertension in human beings which might be cured by nephrectomy.

It has been recognized that many cases of chronic pyelonephritis are associated with hypertension during some phase of the disease, even before renal insufficiency is noted (Longcope), but it is only within the last few months that cases have been reported of hypertension associated with unilateral pyelonephritis. Butler records two such cases in children whose blood pressure returned to normal after nephrectomy. Pathological studies of the removed kidneys showed chronic inflammatory process with slight to marked arteriolar changes. These are the first recorded cases to substantiate the contention that sustained hypertension in human beings may be due to unilateral renal disease and that nephrectomy results in cure.

The authors present the case of a boy, 5½ years old, who had suffered some hypertension from the age of six months. Followed closely in their clinic, he was found to have an ectopic right kidney located in the pelvis. The function of this kidney was good, yet at the time of nephrectomy it was found that the renal artery was partially occluded by a plug of smooth muscle and was on a definite tension. Very little arteriolar change was noted within the kidney proper. Following operation, which was uneventful, the patient's blood pressure promptly returned to and stayed within the limits of normal.

The authors state that pathological changes affecting the renal arteries which might be expected to lead to hypertension on the basis of the knowledge which we now have are briefly: congenital anomalies affecting the lumen of the renal artery; an abnormal course or position which would probably in most cases be associated with ectopic or malformed kidney; inflammatory lesions such as periarteritis nodosum, localized arteriosclerotic plaques, aneurysm, dissecting aneurysm, thrombosis with recanalization, and possibly intermittent spasm. The relationship between pyelonephritis and hypertension is undoubted in some cases, but the mechanism of its production is not clear. Any or all of the lesions enumerated may be unilateral or bilateral and would produce hypertension perhaps in either case.

Many of the above cases which fall in this group are to be found among children with unexplained hypertension, and adult individuals who rather suddenly develop hypertension in whom nothing can be found to account for it after adrenal tumor and arteriolar disease have been ruled out. In such cases intravenous pyelography used routinely might lead to the discovery of some renal anomaly or perhaps unilateral renal disease which was not suspected from the usual medical examination. A difference in rate or degree of excretion of the dye on the two sides may be of great value in diagnosing this type of unilateral renal disease. If any evidence of pathological change is gained from the intravenous pyelogram complete urological work-up should certainly follow, paying particular attention to differential function and careful study of the urine from each kidney. It would seem that before any case with hypertension is subjected to any of the operative procedures now in vogue for the relief of hypertension the kidney should be ruled out as the possible source of hypertension.

That hypertension due to unilateral renal disease capable of being cured by nephrectomy is not an exceptionally rare condition is evident from the fact that we have seen three cases in the last few months, two of which have been subjected to nephrectomy with apparent cure. The third case is under observation and is to be operated upon soon.

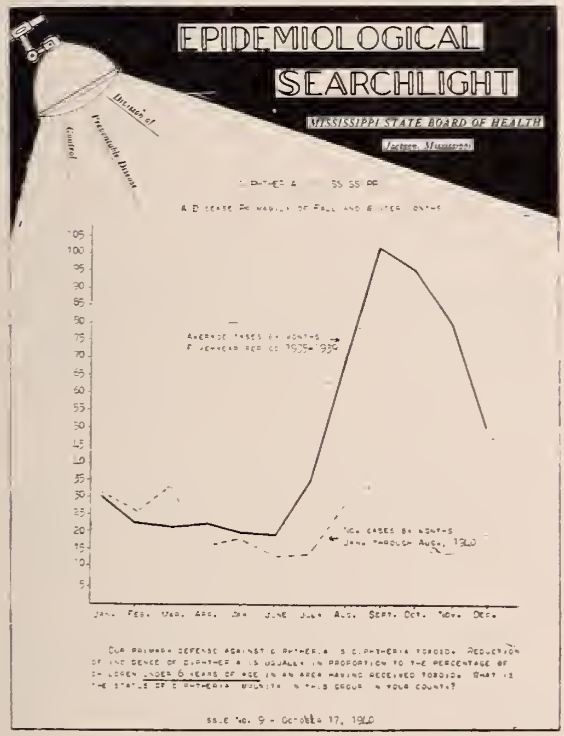
COMMENTS

I feel that closer co-operation between medical men treating the hypertensive patient and the urologist will lead to the discovery of more cases that following nephrectomy will eventuate in a complete cure of the hypertension. In view of the poor prognosis for the young hypertensive, it is my opinion that more investigation of the genito-urinary tract as a possible etiological factor is indicated.

—T. A.

State Board of Health

Felix J. Underwood, M.D.



Our primary defense against diphtheria is diphtheria toxoid. Reduction of incidence of diphtheria is usually in proportion to the percentage of children under 6 years of age in an area having received toxoid. What is the status of diphtheria immunity in this group in your county?

Issue No. 9 - October 17, 1940

DIPHTHERIA SEASON IS HERE

In spite of the tremendous reduction of diphtheria incidence in Mississippi during the past few years, the disease remains a problem of much importance. Dr. A. L. Gray, director of the Division of Preventable Disease Control, calls attention to the fact that the period of highest diphtheria incidence is here and urges physicians to watch closely for early symptoms of the disease and to take precautionary measures upon first indications. It is pointed out that many of the deaths which have occurred are in those cases which came to the attention of the physician late in the progress of the disease or when diagnosis was delayed even when seen early. To delay administration of antitoxin most surely will increase fatality. The protective antitoxin should be given promptly when it is suspected that a person has been exposed to diphtheria and is not already protected against the disease. The physician can eliminate much needless waste of human life and injury to health by administering early in diphtheria cases sufficient quantities of potent antitoxin.

Warning: When a physician desires to give antitoxin it is his responsibility to see to it that the drugstore or any other source from which he may get it has kept it properly refrigerated in a mechanical refrigerator. A few drugstores still insist on keeping diphtheria antitoxin and other biologics in the candy case or in an ice refrigerator in which ice may be placed only occasionally. The mechanical refrigerator is the safest and most satisfactory place for keeping such products.

* * * *

Health Education at the State Fair

Approximately 20,000 people were attracted to the State Board of Health's exhibit at the Fair this year to watch with interest the features which were depicted regarding "Baby's First Year." With many mothers and babies still dying needlessly throughout the state, the exhibit was designed to show how much of this might be prevented by proper care.

A movie entitled "Motherhood, Life's Most Important Job," was used to good effect. It shows one woman's experience and the care she followed to give birth to a normal, healthy infant. The complicated processes of embryonic life were pictured in models from the very first stage when the female cell is fertilized. By simple photographic placards placed below the models, advice in words and pictures was given prospective mothers and fathers relative to the need for early medical care. The importance of ignoring advice from the would-be helpful neighbor or from "gossips," and the value of such things as proper rest, food, and exercise were stressed. Major emphasis was placed on the necessity for being under a physician's care throughout pregnancy and for seeking his attention when the condition is first suspected.

Of the more than 3,000 infants who die in Mississippi annually, it is estimated that from 1,500 to 2,000 might be saved by proper medical and nursing care of the mother during expectancy and confinement, and supervision of the child during the first hours after birth. It is toward the prevention of these needless deaths that the State Board of Health exhibit was directed.

The exhibit is being released for use by local fairs and other occasions.

* * * *

Health Defense Measures at Camp Shelby

Public health is a vital factor in national defense and as a consequence there are many additional duties imposed upon the health personnel of the state in providing for the welfare of both troops and civilian population. The health problems in troop concentration areas are deserving of the utmost consideration in achieving maximum efficiency and every possible co-operation is being given by state and local health officials to avert spread of disease. Inspection of sanitary facilities, water supplies, food and drink supervision, proper notification and investigation of communicable diseases among both troops and civilians are essential. Major attention is being given to the control of venereal diseases in order to prevent a repetition of the experience of the last World War, during which more than six and a half million days were lost to the Army as a result of not having had better control measures. To help combat this situation, state health departments have entered into a joint agreement with the War and Navy Departments, the Federal Security Agency, and voluntary agencies. The agreement was adopted by the Conference of State and Territorial Health Officers, May, 1940, and reads as follows:

1. Early diagnosis and adequate treatment by the Army and the Navy of enlisted personnel infected with the venereal diseases.
2. Early diagnosis and treatment of the civilian population by the local health department.
3. When authentic information can be obtained as to the probable source of venereal disease infection of military or naval personnel (familial contacts with naval patients will not be reported), the facts will be reported by medical officers of the Army or Navy to the state or local health authorities as may be required. If additional authentic information is available as to extramarital contacts with diseased military or naval personnel during the communicable stage, this should also be reported.
4. All contacts of enlisted men with infected civilians to be reported to the medical officers in charge of the Army and Navy by the local or state health authorities.
5. Recalcitrant infected persons with communicable syphilis or gonorrhea to be forcibly isolated during the period of communicability; in civilian populations, it is the duty of the local health authorities to obtain the assistance of the local police authorities in enforcing such isolation.
6. Decrease as far as possible the opportunities for contacts with infected persons. The local police department is responsible for the repression of commercialized and clandestine prostitution. The local health departments, the state health department, the Public Health Service, the Army, and the Navy will cooperate with the local police authorities in repressing prostitution.
7. An aggressive program of education both among enlisted personnel and the civilian population regarding the dangers of the venereal diseases, the methods for preventing these infections, and the steps which should be taken if a person suspects that he is infected.
8. The local police and health authorities, the state department of health, the Public Health Service, the Army, and the Navy desire the assistance of representatives of the American Social Hygiene Association or affiliated social hygiene societies or other voluntary welfare organizations or groups in developing and stimulating public support for the above measures.

COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

MINUTES

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff held their regular monthly meeting at the Alcazar

Hotel at 12 noon, Wednesday, October 9, 1940. The minutes of the previous meeting were approved as read.

Due to the fact that Clarksdale and Six Counties Medical Society meets on November 13, 1940, the Coahoma County Medical Society will postpone their regular monthly meeting until December 11, 1940.

Dr. L. H. Brevard read a paper on "Nutrition and Resistance to Disease in Everyday Practice." This paper was well presented and discussed by all members present.

The secretary announced that instead of a member presenting a paper that there will be a round table discussion and election of officers at the next meeting.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY

SEMI-ANNUAL MEETING
2:00 P.M.—AMERICAN LEGION HUT,
CLARKSDALE, MISS.

— PAPERS —

1. Phrenic Nerve Operations—Dr. W. J. C. Weimers.
2. Pneumothorax Therapy—Dr. Ray H. Biggs.
3. Extra-Pleural Pneumothorax—Dr. Allen Lilienthal.
4. Thorocoplasties and Other Operations—Dr. John S. Harter.

RECESS

— Alcazar Hotel, 7:00 P.M.—Banquet —

1. The Significance of the Collapse Therapy Program at the Mississippi State Sanatorium.—Dr. Henry Boswell.

OFFICERS:

President, Dr. H. A. Gamble, Greenville; President-Elect, Dr. J. D. Simmons, Cleveland; Secretary-Treasurer, Dr. F. M. Acree, Greenville.

Vice-Presidents: Dr. W. W. Hall, Bolivar; Dr. J. W. Barkley, Humphreys; Dr. L. B. Otken, Leflore; Dr. R. C. Smith, Sunflower; Dr. J. G. Archer, Washington.

Delegates: Dr. J. P. Wiggins, Bolivar; Dr. G. M. Barnes, Humphreys; Dr. G. Y. Gillespie, Jr., Leflore; Dr. W. H. Weeks, Sunflower; Dr. J. S. Sanders, Washington.

DESOTO COUNTY

For years it has been the tendency of our fellow practitioner to look askance upon our specialty of psychiatry and not infrequently question our own ergasiology. In light of research and better teaching of psychiatry to the medical student this has largely been overcome. May we foster and further enhance the idea that the psychiatric problem is a medical problem rather than push our specialty further back into the quagmire of mysticism and incredulity by too much super specificity as may result from too unsound and unbiologic an approach? After all, the mind has developed along with the body, and behavior must therefore depend upon certain physiologic structures and principles, rather than a maze of psychologic hypotheses that are as bizarre and illogical as is the behavior of the patient. —Dr. Carroll C. Turner, Sept., 1940, issue of the S. M. J.

* * * *

Someone remarked that worry causes rheumatism; this may be true, but to the contrary we know full well that rheumatism causes plenty of worry.

* * * *

There Are Such Folks

"George," said the bride's mother, "did you send for the doctor?"

"I sent for three," replied the efficient expert proudly. "Whoever gets here first gets the case."—Country Gentleman.

* * * *

Preparedness

It is most meet we arm us 'gainst the foe;
For peace itself should not so dull a kingdom.

But the defenses, musters, preparations,
Should be maintain'ed, assembled and collected,
As were a war in expectation.
The arms are fair
When the intent for bearing them is just.
—Shakespeare in HENRY IV.

To be prepared for war is one of the most effectual ways of preserving peace.—George Washington, in speech to both houses of Congress, Jan. 8, 1790.

* * * *

I asked an excellent lady to write an article on—

The Patient's Viewpoint

Of course, we know knowledge and training are absolute essentials to the good doctor's curriculum, but to the average patient his "bedside manner" is of great importance. We like our doctor to be physically clean and sartorially neat and many of us prefer one who explains things to us instead of just saying, "Do this" and "Swallow that." Why not take the patient into his confidence? Why shouldn't doctors make a routine practice of asking the patient what he thinks is wrong?

Someone said that nothing makes a doctor more vexed than a patient to make his own diagnosis. I cannot understand his mode of reasoning. The patient's worry is very important and he thinks that the doctor should consult and listen to his statement more patiently.

We prefer the "family doctor" except in major operations and then we desire him to be close by. Even when we must go to the city specialist, we like to know something about him, whom he married, his birthplace, his religion and other pertinent questions. It seems that the doctor would find his relations with patient and family smoother if he could bring himself to regard them as his partners, getting information more readily and not resenting their wish to be informed.

Perhaps though, instead of setting forth what we like in a doctor, we should be marvelling at his skill, dexterity and forbearance; we cannot get along without him but we trustfully hope that we can get along with him better.

* * * *

Physicians are curing almost as many diseases with sulfanilamide and its derivatives today as they used to cure with calomel—St. Louis Star-Times.

* * * *

The Tennessee State Nurses' Association quite recently held an annual meeting in Hotel Peabody, Memphis. Miss Lennis Ault, of Knoxville, was elected president for 1940-41. Miss Ault said that one of her objectives as president would be to bring about a shorter work day for private duty nurses—8 hours a day per nurse for the acutely ill patient, 12 hours a day per nurse for those not so ill. She also stressed citizenship and necessity for upholding their association in its various phases.

Dr. O. W. Hyman, dean of administration of the University of Tennessee's Memphis schools, made a characteristic and interesting address on "Should Nursing Education Be Supported by the Public at the Level of Professional Education?" Dr. Hyman said he had consulted dictionaries to get an accurate definition of "professional," especially as distinguishing a profession from a "trade."

"We Americans have a bad habit of abusing words until they become meaningless," he said. "My wife sent me to the store not long ago, asking me to get a certain canned vegetable and instructing me to get a good grade. The first can I saw was marked "giants" and, inwardly pleased at my good fortune, I bought it and returned home in a state of modest pride.

"Imagine my chagrin when I found that my 'giants' were really runts and culls, and that above this grade were 'mammoths' and 'jumbos' and 'colossals.' Surely in this case the destruction of meaning of words has reached its limit.

"We are inclined to smile indulgently at these extravagances, but I believe that they betray a wide-spread state of irresponsibility and carelessness in the matter of intellectual and moral standards.

"If nursing is conceived as a profession, then a minimum of two or three years of liberal arts training will become prerequisite to the professional training.

"If we assume a minimum course of two years liberal arts, two years basic sciences and two years nursing, the cost of instruction would be about $2000 for each student. This is based upon costs at the University of Tennessee, where such costs are unusually low."

The new director of DeSoto County Health Department is Dr. W. Arthur Vandergrift. The doctor has already shown his efficiency, and a modest and brief autobiography is in line:

"I was born April 13, 1914, in Birmingham, Ala., moved to Memphis, Tenn., two years later, attended the public school there, was a graduate of Messick High School, also of the West Tennessee State Teachers College and the medical school of the University of Tennessee, the last in June, 1939. Internship at Charity Hospital, New Orleans; while serving in this last capacity I met, wooed and won the heart of Miss Jean McKnight, of Memphis—this by far my most successful conquest.

"I joined the Mississippi State Board of Health July 1, 1940.

"I also had a two-month training period with the LeFlore County Health Department at Greenwood under the instructions of Dr. R. J. Jones. I assumed control of the department here Sept. 1, succeeding Dr. J. W. Evans, who resigned to enter private practice.

"I attend church services, am a member of the Hernando Rotary Club and also a member of the DeSoto County Medical Society which membership automatically makes me a member of the Mississippi State Medical Association and the A. M. A.

"I like my work and association and I am sure it will be both pleasant and profitable. While at college, I was a member of Phi Delta Sigma and am also a reserved officer in the United States Army.

"W. Arthur Vandergrift, M.D."

Rt. 4, Memphis, Tenn. L. L. Minor,
Oct. 18, 1940. Editor.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

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President-elect ....Mrs. W. K. Stowers, Natchez
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ACTIVITIES CALENDAR

June—Hygeia.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Pre-Natal Care.
April—Cancer.
May—Alcohol.

JANE TODD CRAWFORD

(A radio dramatization by Mrs. Samuel H. Flowers, Louisville, Ky., is reproduced from a talk by Mrs. Arthur Thomas McCormack, at the Filson Club, February 1, 1932, and is presented to aid the campaign of the Auxiliary to the Southern Medical Association to place a memorial to the honor of Jane Todd Crawford.)

Narrator: One hundred and twenty-eight years ago today, right here in our own state of Kentucky, surgical history was made, when Dr. Ephraim McDowell of Danville, Kentucky, performed the first ovariotomy. On a crude table of ordinary height, without the aid of an anesthetic, this marvelous operation was performed, thus opening up the vast field of surgery hitherto unexplained.

It is 1809 and we take you to the two-story log cabin home of Mr. and Mrs. Thomas Crawford, located on Blue Springs Branch of Caney Fork, of Russells Creek, that flows into Green River, in Green County. Mrs. Crawford, forty-six years of age and the mother of five children, is afflicted with a painful and peculiar ailment. Mr. Crawford consoles his wife.

Thomas Crawford: Do you feel better, Jane? Let me heat that salt agin and put it to your side. . . . Maybe that'll help. Now there. . . . rest if ye can.

Mrs. Crawford: Oh, Tom. . . . 'tis turrible . . . . turrible. . . . I kaint bear it Tom. . . . . I kaint bear it:

Thomas Crawford: I know, Jane. . . . What worries me is that our doctors air powerless. They don't seem to know what ails ye. . . . Whether thar is to be a little one—or, what?

They told me, Jane, about a young surgeon over thar in Danville. I think I'll have the doctors call him, Jane. It won't hurt to try. Rest some if you kin and I'll be back soon. I won't be long.

NARRATOR: And so it was that, sixty miles away, a courageous crusader, a daring young Scotchman, Dr. Ephraim McDowell, just turned thirty-eight years of age, responded to that call and, mounting his horse, rode sixty miles through ice and snow over a crude road to the Crawford home. We hear him as he approaches at dusk, on this cold, dreary day, December 13, 1809.

(. . . Sound of approaching horse's feet . . . and the barking of dogs.)

DR. MCDOWELL: Whoa there, feller. . . . whoa. . . . hulloa. . . . hulloa, I say.

THOMAS CRAWFORD: Evenin', Doctor. Git down, Doctor. Come in . . . come right in . . . It's glad we air to see ye. Here, Sam, unsaddle this horse, feed and water him . . . Put him in Becky's stall. . . . We've been watchin' fer ye the whole day through. My wife is punishin' with pain. . . . It's turrible. . . . Come this way, Doctor. She's restin' here.

DR. MCDOWELL: How are you, Mrs. Crawford? Now let's see. . . . lay just as quiet as you can while I have a look at you. . . . That's it.

NARRATOR: And so in that lonely cabin, with only the dim light of the open fire, Dr. Ephraim McDowell begins his examination. Patiently, gently, with a feeling of compassion for this woman upon whom he pityingly gazes, Dr. McDowell faces the greatest problem of his entire life. He finds her suffering excruciating pain. Her abdomen is enlarged. . . . so greatly enlarged, in fact, that it has assumed alarming proportions. His face registers his disturbed emotions: Just as men have discovered new worlds, Dr. Ephraim McDowell at this moment glimpses a new horizon of relief for suffering humanity. This is the crucial moment in this young doctor's life.

His thoughts then turn to the dependent little children and the sorrowing husband, whose anguish we can well imagine. Thomas Crawford walks restlessly back and forth. . . . what will be this strange new doctor's decision?

At last Dr. McDowell is finished. He calls the distressed husband. At one side we hear them talking.

THOMAS CRAWFORD: Well, Doctor, air we goin' to have another little one?

DR. MCDOWELL: No, my good man, there will be no little one. You have had five. That is quite enough, I'm sure. . . . Your wife is suffering with a condition. . . . a diseased condition. . . . that has formed a growth, for which there is no cure. . . . except. . . I hesitate to tell you this because it is something that has never been heard of before. . . . If that growth could be cut away. . . . it would mean more pain. . . . keen cutting pain. . . . which might bring blessed relief or well. . . . it might mean the end. . . . It would be an experiment. . . . .

Mr. Crawford, your wife cannot live as she is, and even with the experiment she may not live. . . but it is her only hope.

If she will come to my home in Danville, I am willing to perform the experiment for her relief, at the risk of my own reputation.

THOMAS CRAWFORD: (With anguish) Doctor. . . I don't know what to say. . . . If I should lose her. . . . after these years together . . . I kaint think of losing her! Let me talk to her. . . . Jane! . . . Jane!

NARRATOR: And so the bewildered husband and wife talk of the things that the strange doctor has explained. . . . She thinks of her comfortable home. . . she looks at her children. . . . she loves them just as every mother does. . . . even indescribable pain does not keep them from occupying first place in her heart. . . . How can she get to Danville? Will she have strength to go over the sixty miles of rough, treacherous road? Then—with unusual courage, such as only pioneer women possess, with the voices of her children sounding in her ears—Jane Todd Crawford speaks:

JANE TODD CRAWFORD: Thomas, tell the doctor that I am willing. . . . and ready.

THOMAS CRAWFORD: Dr. McDowell, Jane says. . . . that. . . . she. . . . is ready.

NARRATOR: At last. . . . we find the Crawford family gathered in the doorway. Thomas Crawford speaks:

THOMAS CRAWFORD: Sam, you git the horses here. . . . Alice, stay with yore Aunt Rachel . . . James and Thomas Howell, keep the fire a-goin'. . . .

ALICE CRAWFORD: (Weeping) Mother! Don't yuh leave us. . . . don't yuh go away. . . . don't go away!

JANE TODD CRAWFORD: Now, now, Alice. . . . yore Mother's brave little girl. . . . I'll come back soon. . . . yes, I'll come back real soon. . . .

NARRATOR: And so the suffering woman was lifted to the saddle and the Thomas Crawford family watched their brave mother turn her horse's head toward Danville. . . . wondering if they would ever see her again. And Mrs. Crawford, with fortitude and strength, calmly rode away to perhaps, blessed relief. . . . or maybe, the end. Over frozen ground, through deep mud and water. . . . traveling for days. . . . this woman with the huge growth resting upon the horn of the saddle. . . . suffered untold pain. Reaching Danville, Mrs. Crawford rests while preparations are made for this unbelievable, unheard of operation. . . .

A room in the McDowell home is turned into an operating room, and we find Hannah, the cook, carrying out the orders of her beloved master. . . . As she works she talks to herself.

HANNAH: Now, lemme see. . . . he dun said a bowl of water. . . . some clean cloths. . . . blankets. . . . boil the water this cold day. . . . and clear the kitchen table. Lawsy me. . . .! I'se scared to death. . . . Yas suh, I'se scared to death!

DR. MCDOWELL: Come, now, Hannah. . . .is everything ready?

HANNAH: Yas suh, Dr. McDowell, I'se got everything right heah!

DR. MCDOWELL: (Washing hands. . . . water splashes) Call my nephew, Dr. James, Hannah . . . and have them bring Mrs. Crawford in.

NARRATOR: Mrs. Jane Todd Crawford, the bravest soul that surgical history has ever known, is brought in and placed on the kitchen table near the open fire. It is a crude wooden table of medium height. As preparations are completed . . . Dr. Ephraim McDowell recites a prayer that he has written and placed in his pocket, as was the custom of the day. . . .

DR. MCDOWELL: "Almighty God, be with me, I humbly beseech Thee, in this attendance in Thy holy hour. . . . give me becoming awe of Thy presence, and grant me Thy direction and aid. . . . I beseech Thee, that in confessing I may be truly humble and penitent in prayer, serious and devout in praises, grateful and sincere, and in hearing Thy word attentive, and willing and desirous to be instructed. . . . Direct me, oh! God, in performing this operation, for I am but an instrument in Thy hands, and am but Thy servant, and if it is Thy will oh! spare this poor afflicted woman. Oh! give me true faith in the atonement of Thy Son, Jesus Christ, or a love sufficient to procure Thy favor and blessing; that worshiping Thee in spirit and in truth my services may be accepted through His all-sufficient merit. Amen."

NARRATOR: The operation, the first of its kind ever to be performed, begins. . . . Dr. McDowell cuts through the flesh. . . . Mrs. Crawford has had no anesthetic and the pain is great. . . . we hear her voice. . . .

JANE TODD CRAWFORD: (Voice of the weak suffering women) Yea, though I walk through the valley of the shadow of death, I shall fear no evil for Thou art with me. Thy rod and Thy staff they comfort me. . . .

NARRATOR: As Dr. McDowell cuts into the abdomen he finds a huge growth. . . . So large that it cannot be removed in one section. So he removes it in two parts. . . . Minutes pass while these brave souls keep their rendezvous with death! At last the opening is closed. . . . and the dressings placed. . . . And the great experiment, the first ovariotomy ever performed, is finished in twenty-five minutes.

Dr. McDowell ordered Mrs. Crawford put to bed under strict orders. Five days later, when he visited her, he was surprised to find her up and making her bed. In twenty-five days she rode home to her husband and family. She lived thirty-two more useful years . . . incidentally, serving as one of Indiana's first Sunday school teachers. . . . dying at the age of 78. She sleeps in the Johnson Cemetery at Graysville, Sullivan County, Indiana.

* * * *

This dramatization is offered in her honor today because through the bravery of Jane Todd Crawford, the men and women of this world have been brought relief from untimely death—death that is inevitable where safe abdominal surgery in diseased conditions is not possible.

When the Clinical Picture of Vitamin B Complex Deficiency is Dominated by PELLAGROUS SYMPTOMS

In frank pellagra, and in the subclinical stages so frequently encountered, Nicolexin produces prompt remission of the characteristic lesions and psychotic changes if the latter are present. Its nicotinic acid amide is therapeutically as effective as nicotinic acid itself, but is better tolerated, thus permitting administration of adequate dosage without unpleasant side actions.

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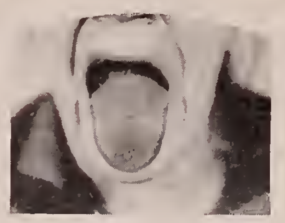
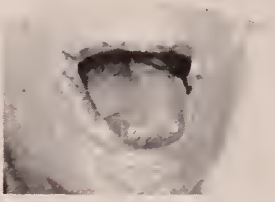
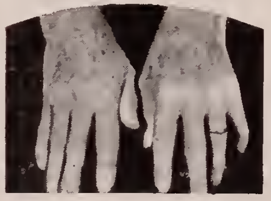


The glossitis of pellagra: the tongue is beefy red, the mucous membrane smooth and usually dry.



Fissures at the angles of the mouth have been ascribed to riboflavin deficiency. To be differentiated from perlèche.



The bilateral, symmetrical dermatitis of pellagra involves the extensor surfaces of both wrists.

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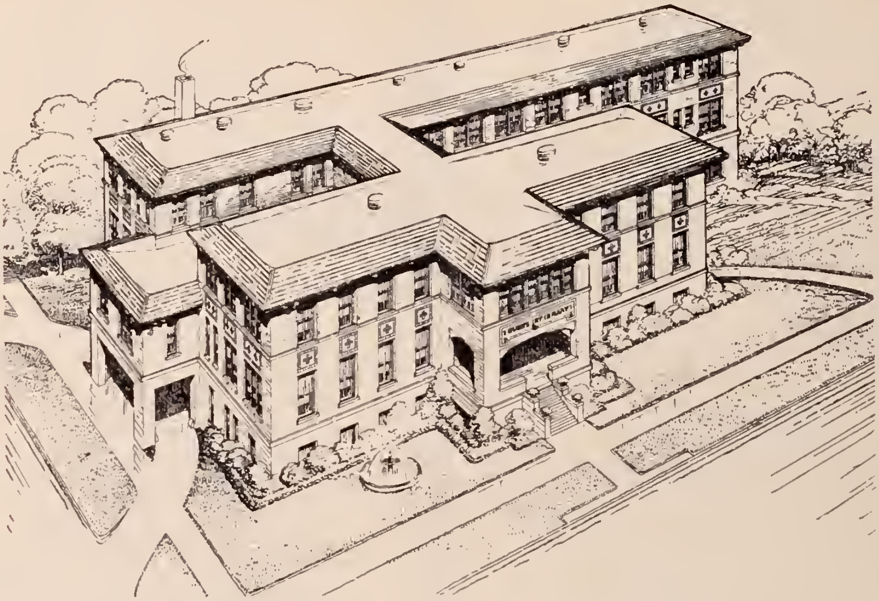

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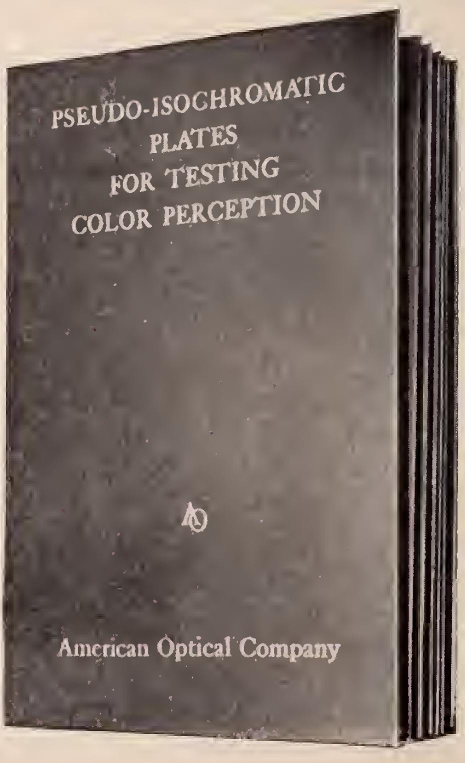
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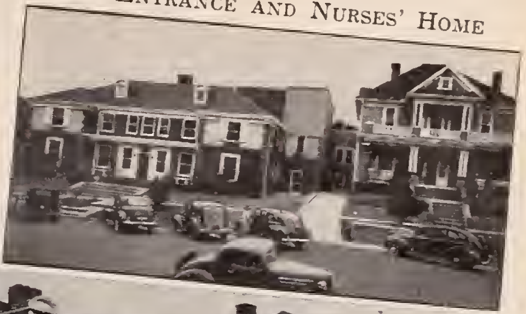

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And a man may listen and hearken
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"If he puts from his heart's inner chamber
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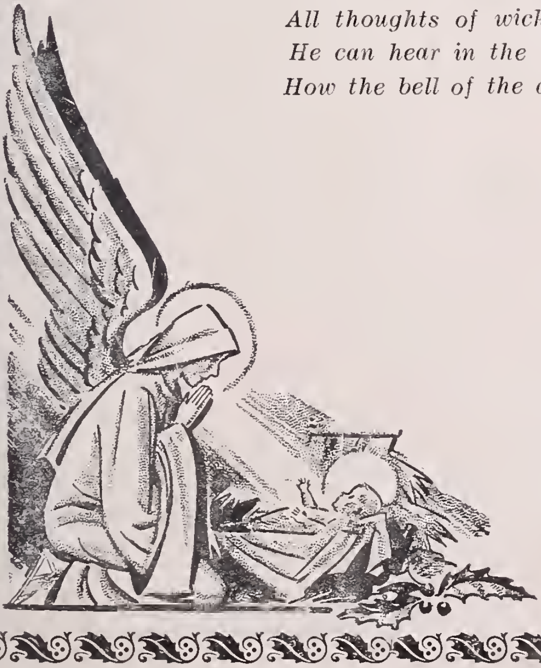
He can hear in the holy twilight,
How the bell of the angels rings."



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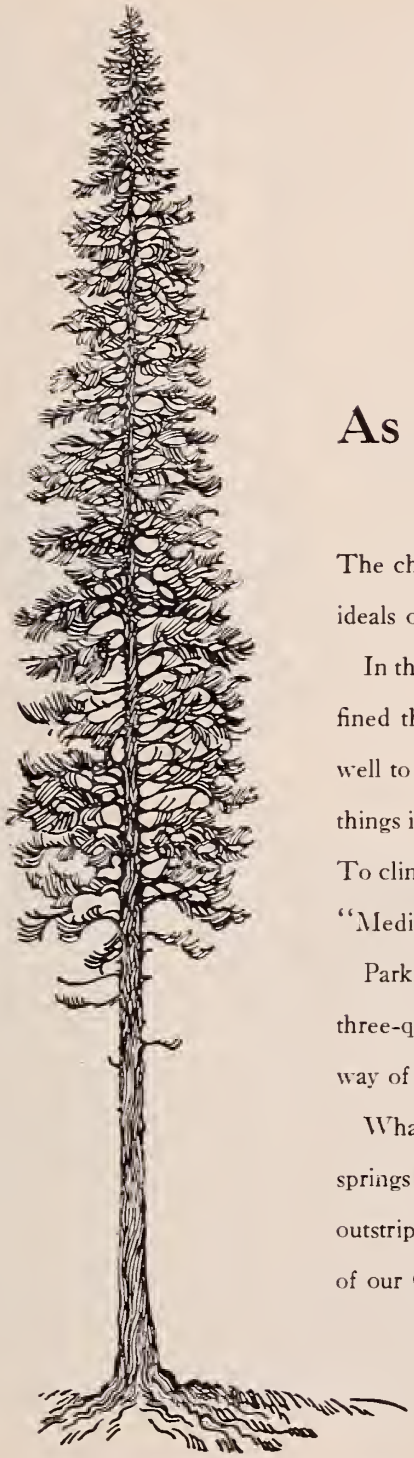

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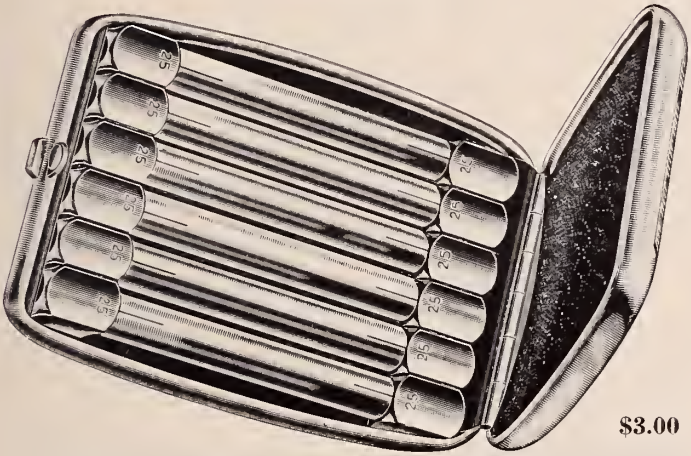

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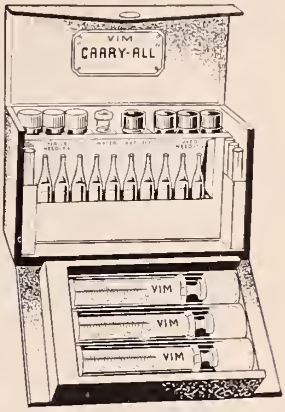

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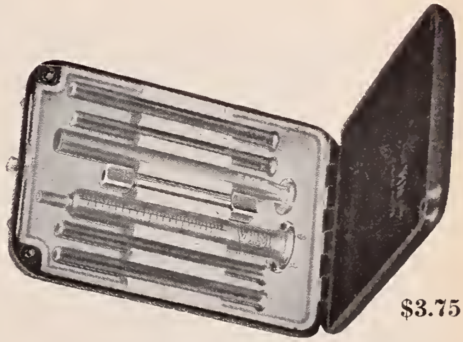

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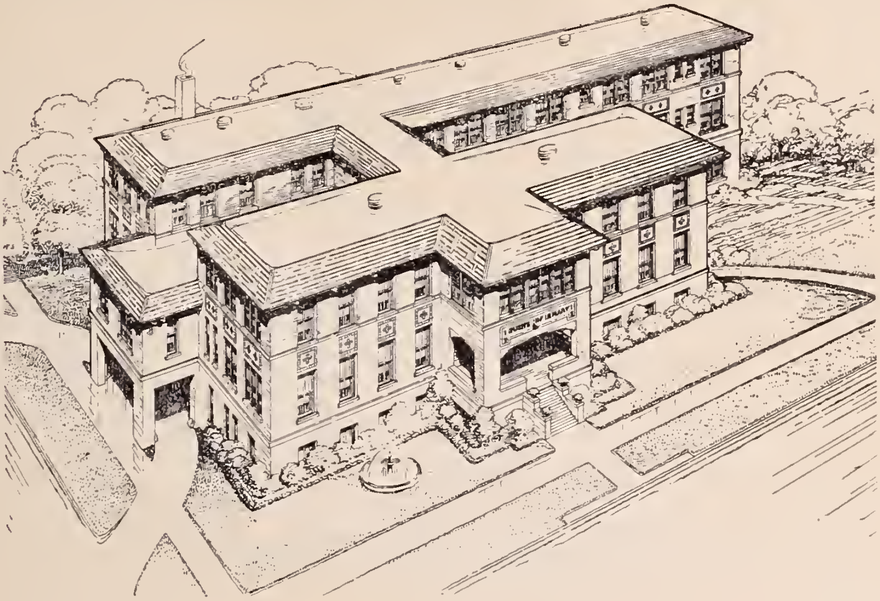

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The Treatment of Syphilis in Infancy and Childhood*

JOSEPH YAMPOLSKY, M.D.
NASHVILLE, TENN.

FOR THE PAST twenty years it has been my privilege to treat congenital syphilis and watch new drugs come into use and old ones fall into disrepute. After studying the numerous methods of administration of these drugs used in congenital lues, I believe that I can evaluate the effect of these medications in many ways.

It is important to remember that the great majority of patients suffering from congenital lues are young and many are newborn. In using these drugs, the following questions must be asked about each one:

(1) Is the drug safe, or are its toxic effects severe?

(2) Are there painful effects after administration?

(3) Can it be diluted in such small proportions that it can be given safely either intramuscularly or intravenously?

The methods of giving these drugs are numerous. A great number of them can be given as follows:

(1) By mouth
(2) By rectum
(3) By inunction
(4) Intramuscularly
(5) Intravenously
(6) Intraperitoneally
(7) By vapor

The simplest method should be used. If drugs can be given orally as effectively as by other methods, this route should be used. This simple and less painful method will insure the co-operation and the continued treatment of the patient—an important factor in his cure.

Of the many arsenical preparations used in the treatment of syphilis in children I would like to name the following:

(1) Arsphenamine
(2) Neoarsphenamine
(3) Sulpharsphenamine
(4) Silverarsphenamine
(5) Bismarsen
(6) "Mapharsen" (meta-amino-para-hydroxy phenylarsine oxide)
(7) Acetarsone
(8) Acetyl-gluco-arsphenamine

From this number I would like to select only the following three, because, in my experience, the others have not proved of as much value from the standpoint of treatment, resultant toxicity, and the ease of administration. They are neoarsphenamine, sulpharsphenamine, and acetarsone.

Neoarsphenamine may be given both intramuscularly and intravenously.

(1) When given intramuscularly half of the dose is injected in each buttock. There seems to be little pain and the medication is absorbed very promptly.

(2) It may be given at room temperature.

(3) It does not have to be neutralized.

(4) It is diluted in the dosage of 0.1 gram in 1 cc. of distilled water and 0.02 gram is given for every three pounds of body weight.

I have had the good fortune of giving this drug intraperitoneally for some years. My experiences along this line have been described previously in other papers[1]. However, I would like to state briefly some of the results I have had in injecting neoarsphenamine by the intraperitoneal route. A series of rabbits were given this medication in the dosage of 0.1 gram diluted in 1 cc. of distilled water intraperitoneally. Many of these rabbits were autopsied shortly after the administration of this drug, and there was no evidence of its presence in the peritoneal cavity, which proved to me that the absorption was almost as rapid as it is when given intravenously. Following this experiment many rabbits were treated for several weeks with this drug and later, at autopsy, the peritoneum remained glistening and contained no signs of the drug or adhesions. When given to human beings there seems to be no after effect in any of the cases where this method was used. After a year's treatment, G. I. series were performed on all the patients with a negative result. No adhesions were found.

---

*Read before the Mississippi State Pediatric Society, May 13, 1940, Jackson, Miss.

I have described sulpharsphenamine in a recent paper[2] and I will repeat what I said about it at that time:

"Sulpharsphenamine has been used extensively in clinics where congenital lues is treated. It has the advantage of the ease with which it may be given intramuscularly and even subcutaneously. Some clinicians prefer this drug to other arsenicals, but one must always be on guard against abscess formation; and the ease with which neoarsphenamine can be employed, at the same clinic, in intravenous and intramuscular injections has led me to believe after twenty years of its use that it is preferable to sulpharsphenamine."

The use of acetarsone, or as it is sometimes called, "stovarsol" or "spirocid," opens up a new field and renews our interest in oral administration of drugs in combatting congenital lues. Since there are many discomforts attending the use of hypodermic intramuscular injections, and as we also know that some clinicians find it difficult to inject drugs intravenously, it is worth while to try this drug, as it has proved to be of value both in clearing up the lesions of this disease, and in causing a continuous serological reversal.

In 1934 I described some of my results with several patients whom I had treated with acetarsone[3]. The dosage of this drug is described in the following table:

TABLE I

METHOD OF ORAL ADMINISTRATION OF ACETARSONE WITH DOSAGES (THE BRATUSCH-MARRAIN TREATMENT MODIFIED BY YAMPOLSKY)[3]

First Period (7 days) 0.005 gm. (one-thirteenth grain) per kilograms daily	*Second Period (7 days)* 0.010 gm. (one-seventh grain) per kilogram daily
Third Period (7 days) 0.015 gm. (one-fourth grain) per kilogram daily	*Fourth Period (7 days)* 0.02 gm. (one-third grain) per kilogram daily
Fifth Period (Fifth, Sixth, Seventh, Eighth and Ninth Weeks) 0.02 gm. (one-third grain) per kilogram daily	*Sixth Period* Rest for 6 weeks*

Duration of entire active course 9 weeks.
Duration of rest period 6 weeks.

---

*If the Wassermann reaction is positive, no rest period is given, and treatment is begun with the usual dosages during the first week, to be continued for nine weeks, as shown above.

This drug comes in the form of tablets and it is best to make these into a powder. Every patient receives 21 powders weekly and it is advisable to use the powder daily. The powder is dissolved in water and given one-half hour before feeding. I have found this to be the best method of administration, because acetarsone is rapidly decomposed in an acid medium, and as a result, free arsenic, which is rapidly absorbed in the body, is liberated.

One will no doubt encounter many toxic effects with the use of acetarsone. These briefly are:

(1) Dermatitis
(2) Hyperpyrexia
(3) Nephritis
(4) Diarrhea
(5) Pyelitis

The more severe reactions are: Herxheimer's reaction, flaccid paralysis, and lastly, even death. When simple reactions appear, the mere discontinuance of this drug for a few days is sufficient to relieve the patient and one may begin using the drug again after these reactions have disappeared.

My conclusion, after using acetarsone extensively, is that its most important effects are on the cutaneous lesions, the swelling of the joints in young infants, the pain and motion of the extremities, and the condyloma and general enlargement of the glands. All these conditions showed a complete healing or a marked improvement. The reversal of the Wassermann test was also definite in a majority of the cases.

It may be interesting to note that all clinicians who have used this method of treatment in acquired syphilis seem to feel that it is of no beneficial value in syphilis of adults. That is not the experience of clinicians who treat congenital syphilis and, as I will later describe, its use in conjunction with bismuth will certainly be of great value as one of the many methods used in the treatment of congenital lues.

The other drugs that I named in the beginning have many disadvantages because they may either have to be used intravenously or only intramuscularly, or they may be so painful as to be of no great value when used continuously.

Besides the arsenicals, we now have valuable drugs in both the mercury and bismuth preparations. I would like to say a few words about the use of mercury in syphilis in children. The following table will show the drugs used and their dosage:

Table II[2]

Drug	*Dosage*
Mercury Gray powder, orally	12 to 32 mg. three times daily
50 per cent mercury ointment, inunction	1 grain daily
Mercury salicylate (intramuscularly)	½ grain per every 30 pounds body weight.
Bichloride of mercury or red iodide of mercury (intravenously)	½ minim per kilogram body weight
Bismuth (bismuth sodium tartrate intramuscularly)	⅜ gr. (metallic bismuth) per 30 pounds body weight
Bismuth salicylate (intramuscularly)	25 to 100 mg. daily according to age.

I believe that in the last few years it has been definitely established that the two outstanding ways of using mercury is either by inunction or intramuscularly. The other methods offer no real advantage and a number of them offer many disadvantages. Mercury is most commonly used by the intramuscular route. In giving intramuscular injections, I would like to suggest that the following methods be used:

Divide the buttock in four quarters, using the inner surface of the upper outside quarter. In this way the medication will not sag or go toward the rectum, and, therefore, will not cause untoward discomfort. It is best to apply hot applications to the parts injected for at least one-half hour after treatment. When neoarsphenamine is used, half of the dose is injected in each of the buttocks.

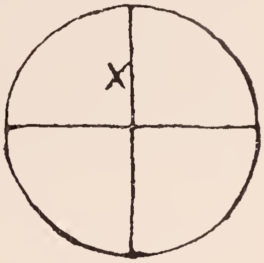

Figure 1

A. The most common medication used intramuscularly is mercury salicylate and the dosage is usually 0.05 grains for every 30 pounds of body weight. When one desires to use a drug which is more quickly absorbed, it is best to use an aqueous solution of mercury such as mercurosal, (Parke, Davis and Company) which may be used intramuscularly or intravenously.

The other method of administration of mercury is by inunction. The drug of choice is the U.S.P. 50 per cent mercury ointment. The amount used daily is about 1 gram and a small portion may be rubbed into different parts of the body on different days of the week.

B. Bismuth may also be given in both soluble and insoluble preparations. This drug should never be given intravenously. While it has been used orally it is, as yet, difficult to arrange capsules small enough to administer to young infants. Bismuth seems to be a drug that is well tolerated even by young infants and for that reason has taken the place of mercury in many clinics. As I will describe later, it has been my pleasure to use the aqueous solution of bismuth sodium tartrate (Searle and Company) in conjunction with acetarsone, the dosage being about ⅜ grain of metallic bismuth for every 30 pounds of body weight. When quick absorption is not desired, bismuth salicylate may be used in the dosage of 25 to 100 mgs. a day as follows: 25 to 50 mgs. in infants under one year of age, and

50 to 100 mgs. in older children.

Before giving you the suggested outline of treatment, I would like to say a word or two about the treatment of neuro-syphilis on children. In general, I would say that the outlook is much worse in congenital than in acquired neuro-syphilis. Out of the many methods which have been used of late, it is possible that the use of malaria and fever therapy will supercede all others. At present, my knowledge of this treatment has been limited because of the few patients that I have had the opportunity of seeing, and I cannot give my opinion as to the value of hyperpyrexia and its use in the treatment of congenital neuro-syphilis.

In conclusion, I would like to give you four tables that I have previously published[2], and which will suggest to you the different methods that may be used in the treatment of early and late congenital syphilis.

TABLE III

Drug	*Dosage*
Arsphenamine and silverarsphenamine (intravenously)	0.05 gm. per 15 lbs. body wt.
Neoarsphenamine (intravenously, intramuscularly)	0.02 gm. per 3 lbs. body wt.
Sulpharsphenamine (intramuscularly)	0.02 gm. per 3 lbs. body wt.
Bismarsen (intramuscularly)	0.02 gm. per 10 lbs. body wt.
Mapharsen (intravenously)	0.5 gm. per kilogram body wt. up to 10 gm. per 25 lbs. body wt. weekly
Acetyl-gluco-arsphenamine (intramuscularly)	0.05 gm. per dose

TABLE IV

Alternate weekly use of arsenical and metallic preparations.

Drug	*Dosage*
(1) Neoarsphenamine (intravenously, intramuscularly)	0.02 gm. per 3 lbs. body wt.
(2) Sulpharsphenamine (intramuscularly)	0.02 gm. per 3 lbs. body wt.
(3) Mapharsen (intravenously)	0.5 gm. per kilogram body wt. up to 10 mg. per 25 lbs. body wt. weekly
(4) Mercury (intramuscularly)	
A. Mercury salicylate (intramuscularly)	½ gr. per 30 lbs. body wt.
Or red iodide of mercury (intravenously)	½ minim per kilogram body wt.
(5) Bismuth (soluble or insoluble)	
A. Bismuth sodium tartrate (intramuscularly)	$\frac{3}{8}$ gr. per 30 lbs. body wt.
B. Bismuth salicylate (intramuscularly)	25 to 100 mg. per day according to age.

Alternate these drugs weekly for 80 to 90 weeks. Wassermann taken every three months. Spinal fluid made at end of treatment.

TABLE V

Duration	*Drug*	*Dosage*	*Remarks*
1-6 wks.	Neoarsphenamine	0.1 gm. per 15 lbs. body wt.	
	Sulpharsphenamine	0.1 gm. per 15 lbs. body wt.	
	Mapharsen	0.5 gm. per kilogram body wt. up to 19 mg. per 25 lbs. body wt. weekly	
6-12 wks.	Bismuth or Mercury	$\frac{3}{8}$-$\frac{3}{4}$ gr. $\frac{1}{2}$ to 1 gr.	Wassermann taken
12-18 wks.	Arsenical Preparations	Same	
18-26 wks.	Bismuth or Mercury	Same	Wassermann taken
26-32 wks.	Arsenical Preparations	Same	
32-42 wks.	Bismuth or Mercury	Same	
42-48 wks.	Arsenical Preparations	Same	Wassermann taken
48-60 wks.	Bismuth or Mercury	Same	
60-65 wks.	Arsenical Preparations	Same	
65-80 wks.	Bismuth or Mercury	Same	Wassermann and spinal fluid examination taken

After 80 weeks of treatment discontinue treatment, see patient from time to time for 6 months, and then follow up patient up to puberty.

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The Public, the Politician and the Doctor*

JAMES H HUTTON, M.D.
CHICAGO, ILL.

As MEDICINE is an intimate part of the social fabric it is bound to be affected by those influences which cause changes in other parts of our social and economic organization. Perhaps more rapid and revolutionary changes have taken place in the last quarter of a century than in any other comparable period.

Improvements in means of transportation and communication have to all intents and purposes made the world smaller. As a result, important events tend to have a wider influence than heretofore. Mosquitoes travel by plane and the trans-oceanic clippers are now met by a reception committee from the Public Health Service, so, even disease, except for our efficient public health organizations, would spread more widely and rapidly than ever before.

It is argued by some that a series of events in one or more countries is likely to be duplicated in other countries. For example, some years ago it was said that the United States was then at exactly the same spot other countries had been in just before they adopted state medicine. It looks as if that prophecy was about to come true.

For the sake of comparing our status with that of other people, let us look at some of the changing pictures in other parts of the world.

During the World War, Russia changed its form of government. The new order was advertised as functioning in the interests of the underprivileged—the forgotten man. Do the people have any more freedom now than they did under the czars? One gets the impression that the present Russian government is as ruthless in curtailing civil liberties, as we know them, as the old regime ever was.

After the War, Italy was taken over by the "Black Shirts" and Germany succumbed to Herr Hitler. In each instance personal liberties were greatly reduced as governmental regulations were extended over more and more of the business, industry and general economic activities of the populations.

In Mexico the government has gone in for the benefit of the peons. Vast estates have been seized and divided among the lower classes. The foreign oil companies and the railroads were seized. But there is no record that I know of, that shows any increase in production or wealth by these measures, and, in some cases, the peons are said to be worse off than before.

In France the socialist government is said to have been responsible for a great decrease in production and general lessening of the country's defensive powers—all in the name of more privileges and a fuller life for what in our country would be referred to as the low-income group.

In England the large estates have been taxed out of existence, but still we hear of the blighted areas, and labor troubles were in evidence until the war came.

There is a tendency for the social theorists and the inexperienced to attempt control of the economic and social life of various countries by seizing political power. Since the war broke out six months ago, we have seen whole populations virtually enslaved by the two greatest socialistic governments, Germany and Russia. The Jews, Poles and Czechs are compelled to do all kinds of non-military work for their conquerors. As Raymond Moley[1] says, "It is one of the grimmest ironies of history that when socialism and communism came into the world they proclaimed as their purpose the freeing of workers from their chains, for the two great nations most deeply imbued with those doctrines are now re-creating forms of slavery that we thought had passed away centuries ago."

All of these countries except Mexico have adopted state medicine. But how does their health record compare with our own? Let us hear what Dr. Haven Emerson[2], great public health officer, has to say on that point: "We are now in fact the possessors of better general health, are less afflicted with preventable disease, are more secure in the survival of our offspring to maturity and have an average expectancy of life greater than that of any population group in the history of man, comparable in size, variety and distribution in age, occupation and economic and climactic conditions. We are today at the very zenith of a march of progress toward national health."

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, March, 1940, Corinth, Miss.

Throughout the world there is an increasing amount of socialistic legislation and schemes to share the wealth or at least to give the low-income group more of the bleedings usually associated with wealth. In our country there has been a great deal of legislation designed ostensibly to help the underprivileged. I would not criticize our legislators who have worked under the pressure of a great calamity, but certainly government efforts have failed of their objectives often enough to warrant caution in their extension.

Recently Lynn W. Beman[3] pointed out that as government regulation was extended and civil liberties abridged, freedom of worship, speech, the radio and the press curtailed, the standard of living declined. If real wages in terms of purchasing power are rated as 100 in America, in England they are 60, in France 50, in Germany and Italy less and in Russia only 16. How does all this effect medicine? According to my information medicine in Russia is almost completely socialized and the doctor is a civil employee of the state. But as we ascend the scale of those countries having more liberties, more freedom of speech, worship, radio and the press, there is less and less of socialized medicine.

What has happened to American medicine? When men say to me, "Do you think state medicine is coming?", I reply, "No, it has already come." The only question is how much will come—and how soon.

Let us see how much we have already. The following may be listed:

Hospitals for the mentally deranged
County and municipal hospitals
Tuberculosis sanatoria
The Veterans Bureau
Health Departments—local, state and federal
The Relief Administration
The Army and Navy
The C. C. C. camps

The medical profession has not opposed the initiation of any of these activities. Health departments were established at the insistence of the medical profession. In Illinois the medical profession petitioned the legislature for fifty years before it finally authorized the establishment of a state department of public health. It is true that we feel that many activities now indulged in by local health departments are beyond the scope of action originally planned for them and represent an imposition not only on the medical profession but on the taxpayer as well. There is a growing belief that their legitimate activities in many places could be carried on for much less money than they now spend.

In St. Louis a progressive health officer has shown that the conduct of a health department can be reduced in cost to about one-third of the amount the schools of public health regard as a minimum for effective administration. This has been done by eliminating many useless activities of the health department and by closer co-operation between that department and the local medical profession. All of this economy has been brought about without sacrificing anything in the way of public health measures.

Medical care of persons on relief is the most recent extension of government into the practice of medicine. In an effort to see that local relief clients received the best medical care possible under the circumstances, the Chicago Medical Society appointed an advisory committee to work with the Relief Administration. For nearly six years members of this committee have given from two to six hours of their time alternate Fridays for this purpose.

In spite of this supervision by members of the medical profession and the friendly cooperation that exists between the committee and the Relief Administration, this program has many defects, which we believe are inherent in any governmental program and are ineradicable.

The patient for the most part is required to call the relief station and ask for a doctor, who is under suspicion of collusion if less than 80 per cent of his calls originate in that way. The patient's illness is immediately made a matter of public record, so that the confidential relationship existing between the patient and physician in private practice is shattered at the first and each subsequent call. The physician is limited in his care of the patient. He may not make as many or as frequent calls as he believes necessary for adequate care; except by special permission he may not use some therapeutic measures that in many cases would relieve distressing symptoms. The social worker does not make the decision as to whether the doctor may or may not prescribe the drug. This question is usually referred to some member of the committee. But the decision after all is made by a man who knows neither the patient nor the doctor and must make his decision on data submitted by telephone. Most of these restrictions are on an economic basis. There is not money enough available to pay for the calls and therapeutic measures denied. The patient may not change doctors without permission from the Relief Administration.

Undoubtedly more care is demanded by relief clients than they have ever before received and more than they need. After all, it costs them nothing. Why shouldn't they have an unlimited quantity of it? One doctor who recently appeared before the committee said he had been called out at ten o'clock at night to take care of a sore corn.

The Relief Administration keeps a statistical record which shows the average number of calls made by the doctor on each client or on each disease. Measles may be cured in three calls, flu in four calls, etc. These are not the exact figures but illustrate the principle. When any physician is found making a number of calls that greatly exceeds this average, he is immediately under suspicion. He may or may not be penalized, but in most instances he is warned to restrict his calls and not to exceed the average.

In Chicago the medical profession, through the Advisory Committee, has been allowed to discipline its own members or at least to recommend any disciplinary action the Relief Administration may take. So far as I know, the advice of this committee has always been followed. To the credit of the profession it should be said that disciplinary measures have been used against only about one per cent of 2600 doctors engaged in this work. The committee has been quite stern in its judgment, on the basis that the man who cheated was not only an enemy to the taxpayer and the public but a traitor to his own profession. Permission for the general profession to indulge in this relief work was won only after considerable negotiation. We feel that this privilege should not be jeopardized by a few men.

None of these remarks should be construed as any criticism of the Chicago Relief Administration. Mr. Lyons had done an excellent job of handling a very difficult situation. The medical social workers in charge of the medical relief program have done their utmost toward co-operating with the doctor. The defect lies in the system itself and the objections to the system would apply with even greater force to a national program.

That these faults are not local is evidenced by a publication from the International Labor Office at Geneva[4]. This book surveyed most of the countries of Europe where state medicine exists. Throughout this book, the question of economy is uppermost, that is, economy as applied to the doctor's calls and the doctor's prescriptions, i.e., on medical care. No remarks are made regarding the palatial offices of the insurance carriers nor of the scores of administrators. These expenses must be met regardless of the type of care or medication the patient receives.

So far the medical profession has not only not opposed but has often helped initiate various forms of so-called state medicine. Now we are threatened with a much greater extension of the government, particularly the federal government, into the practice of medicine, curative as well as preventive. This is in the form of the so-called National Health Program. Since we agree that most of its professed objectives are desirable, why do we oppose the Wagner Bill which was designed to implement the National Health Program? Briefly, we have two objections: first, that it would not attain the objectives set forth in the program, and second, that it would do a great deal of harm. To quote Haven Emerson[2] again:

"What has been published as a National Health Survey was nothing of the kind, and what was publicized as a National Health Conference was not a conference at all but a sounding board before which a hand-picked and in the main a preconvinced group of invited guests listened to the report of a technical committee, with the doubtful privilege of extemporaneous comments but no opportunity for collective consideration or adoption of the slightest change in the ready-made proposals which they were assembled to endorse.

"What we have before us is not a national health program in any rational sense of the word, in that it has not been conceived on the basis of the respective needs of all parts of the nation nor has it been in any true sense nationally accepted. The five proposals do not constitute a program but proposals for expenditures to supplement and make more effective those functions long recognized and generally carried on with a large measure of success by local and state governments. And under the popular slogan of health are included features of public service which deal exclusively and properly with the sick. Public health practice is a professional specialty as rigorous in its educational disciplines and as distinct in the skills involved as are the clinical specialties in the private practice of medicine."

It would appear as if, almost from the beginning, a studied effort had been made by those in charge of this program to antagonize the medical profession. The Interdepartmental Committee to co-ordinate health and welfare activities did not have a single member from the medical or allied professions and curiously it has done very little toward co-ordinating health and welfare activities. Our representatives were given little opportunity to express their opinions as to policies and practices in the field of health until the Bill was sent to a subcommittee for hearings. Griffith[5] says: "Unfortunately, the medical profession, by subtle propaganda emanating from Washington, has been jockeyed into the false position of appearing to oppose for selfish reasons, legislation to relieve human suffering. Such accusations are absolutely untrue."

The social workers and salaried reformers should realize that medical care will continue to be rendered by doctors, most of whom will still be members of the American Medical Association. Whether the doctor acts on his own judgment or according to the rules laid down by the social workers, he will be the same doctor.

We object to state controlled medical care quite as much from an economic as from a medical standpoint, i.e., quite as much as citizens as doctors. A vast army of federal employees is already being created, who are granted special concessions in the way of pensions, sick leaves, annual vacations with pay, and other privileges which employees in industry cannot hope to obtain. Eventually this army will become a matter of entrenched interests bound to exercise a great deal of influence on legislation to secure for these same employees further privileges. I am told that this has already happened in France. The so-called National Health Program would add a large number of non-productive federal and state employees to this already too large group.

Undoubtedly the lack of adequate food, shelter and clothing on the part of the indigent and near-indigent is responsible for much of their illness and no amount of medical care would remedy this condition. It has been found that an adequate diet was the only need of some of the relief cases. In other words, their trouble was a nutritional deficiency, an economic, not a medical problem. We see many others mentally troubled who need to talk and to be advised. There can be no place for such patients in a government program. To make their diagnosis public would undo any good we might otherwise accomplish.

What can we do?

We must be good doctors, render the best care of which we are capable to every patient, and by constant study make that care as good as can be rendered by anybody under the circumstances. Remember that a great many people feel that almost any wrong can be righted by passing a law. When one of our profession fails to do a good job, he furnishes the opposition with more ammunition or makes another convert to state medicine. We are all penalized by our incompetents.

We have an organization through which we make ourselves heard and our influence felt. That is the American Medical Association and its component bodies—the state and county societies. They may not be perfect but they are the best means we have been able to organize. It requires time, energy and often sacrifice to look after the interests of our own group. But every honest doctor should belong to his local medical society, keep himself in touch with its activities, and give a certain percentage of his time and money to the common good. If and when private practice is replaced by state medicine, we shall owe our plight largely to our own failure to do just these things.

At this point I would like to tell you of a conversation with a very good friend, Dr. Evans. It occurred nearly ten years ago on an Illinois Central train on which we were returning from a meeting of the Board of Public Health advisers. I asked him whether he thought state medicine would come. He replied that it probably would unless medicine achieved a different kind of leadership. When asked about the effect on the medical profession, he said he thought it would be a great handicap to good doctors and a boon to lazy and incompetent ones. Recently a doctor in the county through which we were probably riding when that conversation took place told me that already their less competent doctors were doing better and their high-grade ones being penalized. We have already noticed some tendencies in that direction in the medical program of the Chicago Relief Administration and downstate.

CONCLUSIONS: We recognize that the interests of the medical profession are secondary to those of society in general. Unless these proposed changes are detrimental or at least not helpful to society, we cannot oppose them. But it seems to us they are not in the best interests of the country as a whole.

If the social workers and others are determined to have the federal government experiment in curative medicine, why not make the experiment on a small scale instead of nation wide? Initiated by the medical profession there have been or are now being tried 3,900 voluntary schemes for making medical and hospital care more easily available to the low-income group. The state medical society of Michigan is now entering upon a state-wide scheme for increasing the distribution of medical care, and California is making some experiments. In a few years some of these schemes may be found workable and in need of government funds.

The opponents as well as the supporters of the Wagner Bill and the so-called National Health Program agree that certain objectives are desirable. Would it not seem sensible to get conservative representatives of the two groups together and agree on a method of approach that has a reasonable chance of success? As Applewhite[6] says: "Improvements in the field of public health during the past quarter of a century have been a little short of miraculous . . . All these results have been accomplished by organized community effort fostered and promoted by public health agencies, both official and unofficial, and participated in very actively by members of the organized medical profession . . . Any public health program to be eminently successful must be actively supported by the medical profession."

Nearly every one concerned with the care of the sick or the preservation and improvement of health is convinced that the objectives set forth in the so-called National Health Program would not be attained by the methods suggested by the Interdepartmental Committee or by the enactment of the Wagner Bill. Passing a law does not necessarily correct the evil at which it is aimed. We all wish better things for people in the low-income group—better health, better food, clothing and shelter, but spending enormous sums of money without adequate planning is not apt to bring about the desired results.

Every doctor in private practice knows that a great deal of illness is on an economic basis —due to lack of food, shelter or clothing. What good does it do a patient to give him a pill when he needs a square meal? In this county there is a surplus of dairy, farm and orchard products and within fifty miles of these surpluses are people on near-starvation diets. Might not the government undertake to bridge the gap between these two? One of the big problems of today is that of distribution, but it involves food, clothing and shelter, more importantly than medical care. In short, we are for evolution in this field rather than revolution.

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Treatment of Malaria*

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MALARIA IS AN INFECTIOUS DISEASE characterized by paroxysms of intermittent fever which may occur daily (quotidian), every other day (tertian), every third day (quartan), or be continous with marked remissions. Less commonly a pernicious, rapidly fatal form, or a chronic type with anemia and enlarged spleen, is observed.

There is no infectious disease which is comparable to malaria in its widespread geographic distribution. Although, in the last two decades, much has been accomplished by sanitary measures to reduce the morbidity and mortality rates, its prevalence in many countries still remains a serious problem. It still heads the list of diseases in the British colonies, and more than three million deaths are recorded every year throughout the world.

In the northern section of the United States, where malaria was at one time endemic, the disease is now only occasionally observed. At the present time malaria prevails chiefly in the southern sections, particularly the coastal states and lower Mississippi River areas. Even here, where it is still common, the severity, incidence, and extent of the disease has been rapidly decreasing until recently. Such measures as screening, oiling of stagnant waters, and drainage have not always been feasible because of the enormous expense and engineering difficulties, and, therefore, in the last several years there has been an increase.

The cause of the disease remained a mystery until 1898, when Ross incriminated the anopheles as the transmitting agent. Since, it has been definitely established that malaria is caused by three closely related species of protozoal organisms, each possessing definitely morphological characteristics and giving rise to a unique syndrome. They are, namely, plasmodium vivax, the tertian parasite; plasmodium malariae, the quartan parasite; and plasmodium falciparum, the estivo-autumnal parasite.

There are a number of predisposing causes and factors governing the incidence of the disease which I would like to discuss. They are namely: (1) Exposure to extremes of temperature. This we know cannot cause malaria, but such influences tend to increase the susceptibility to the infection. Malarial carriers frequently have attacks of chills and fever, or other clinical forms of the disease, following sudden chilling of the surface of the body, especially if one had been very warm at the time. It has been frequently noted that laborers, or the individuals in intensely malarious sections, who are infected but present no symptoms at the time, frequently begin to suffer chills and fever as soon as the rainy season gets in.

(2) Climate. A dry climate is opposed to malaria, and a wet climate favors it. The longer the rainy season in any locality, the more favorable that locality is for transmission of malaria; the longer the cold season, the less malaria, and vice versa. The most favorable period of transmission is from May 1 to November 1. During the following three months, December, January and February, there is a great reduction in the number of cases of malaria.

(3) Inherited malaria. It is considered by most authorities that there is no inherited malaria, since they believe that the malarial parasite cannot pass from the mother to the fetus, but it is a fact that the maternal side of the placenta is often loaded with malarial parasites. Therefore, a newborn child has no malarial parasite, but is, of course, susceptible to infection; and if it is born in a house where the mother or other members of the family suffer from the disease, the chances of early infection are great.

(4) Immunity. There is no immunity to malaria. Experimental innoculation of people who have not previously had attacks of the disease indicates that all, or practically all, persons are susceptible to infection, but one may have a greater degree of resistance than another. Repeated attacks during childhood

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may result in a degree of resistance sufficient to prevent clinical symptoms in a large number of cases, but not sufficient to prevent infection.

(5) Sex, Age, and Race. Malaria is slightly more prevalent in males than in females. According to Dr. Bass, out of 31,459 blood examinations in Bolivar County, 21.44% infection occurred in males and 19.83% in females. This same experiment showed malaria to be more prevalent in children than in adults; and in negroes, with 21.21% infection, than in the white race, with 16.99% infection. This is believed to be the largest number of systematic blood examinations of white and colored individuals living in the same locality and under practically the same conditions in close association with each other that has ever been made. The experiment included the total population within an area of 300 square miles.

(6) Imperfect Sewage and Contaminated Water Supplies. This is a large factor in the production of mosquitoes and thereby in the transmission of malaria in malarious sections. In 1918, Dr. Bass investigated the town of Ruleville, Mississippi, which at that time was one-half mile square and had a population of 1000, and found 89 different mosquito-breeding pools and accumulations of water due to leaky pipes. By repairing the water pipes and not allowing the accumulation of waste water, it was possible to prevent mosquito breeding almost entirely.

SYMPTOMS

The period of incubation is influenced by the number of sporozoites introduced, and may vary from 6 to 21 days. The patient may experience a certain amount of malaise, headache, etc., for an hour or two before onset, but usually there are no recognizable symptoms. When the attacks develop, however, the onset is usually rather sudden, consisting of typical paroxysms of chills, fever, and sweating. The chill is the first and most frequent symptom, although it may be absent, especially in children. It may vary from a slight shivering to one in which the patient shakes the bed, and may last from a few minutes to one-half hour. There is usually a generalized aching, especially of back and limbs, nausea, vomiting, and at times dyspnea and precardial pain. The fever begins to rise at the time the chill sets in, or sometimes a few minutes before, and reaches its maximum in from 1 to 2 hours. It may reach as high as 104 degrees to 105 degrees F. and last from 1 to several hours. Higher temperatures are occasionally observed. With the beginning of the sweating stage, the fever subsides rapidly, and there is profuse perspiration for an hour or more. The patient becomes quieter, but complains of weakness and depression depending on the severity of the chill and fever. In those that have a greater resistance, the paroxysms tend to occur later each time, and vice versa.

In tertian malaria the paroxysms occur every 48 hours, unless there is a double infection, when they occur every 24 hours; in quartan every 72 hours. The E. A. malaria may give rise to intermittent chills and fever when the parasites segment by crops, or may give rise to a continued fever, and usually no chills occur after the first one or two. The difference in the three is that tertian and quartan are practically always intermittent, whereas E. A. may be intermittent but usually remittent.

DIAGNOSIS

The diagnosis of active clinical malaria is usually easy and certain, but this is not so in those cases in which the illness does not assume the usual clinical course. As in other diseases a clinical history and physical examination are of utmost importance. Some of the more important points in the history that may indicate malaria are, namely:

(1) Residence. One living in a malaria locality is more likely to have malaria than one who does not, and those living in rural districts are more likely to have it than those living in towns or cities.

(2) Family History. This is of importance, for one living in a family whose members have recently had attacks is likely to have it himself.

(3) Occupation. This is of considerable aid in a large number of cases, for those working in swamps, logging camps, and other places where malaria is known to be prevalent, or engaged in work where transmission is most favorable, would be much more likely to contract the disease than those whose occupation does not expose them to such.

(4) Past History. A history of previous attacks tends to indicate the presence of the disease, for relapses are frequent.

(5) Present Illness. This includes the typical syndrome of chills, fever, and sweating, intermittent and periodical, in more than 50

per cent of the cases.

A striking thing about the history is that almost all malarial chills occur during the day. Therefore, a chill occurring during the night should make the physician alert from the start for some other disease.

PHYSICAL EXAMINATION

During the first few days a physical examination may fail to reveal anything that is diagnostic. After several days one may find a slight pigmentation or yellowish discoloration of the tissues, the tongue broad and furred, and a palpable spleen and liver, especially in chronic cases.

The infallible diagnosis of malaria is by microscopic examination of the blood; history and physical examination may indicate it, but the parasites must be demonstrated to make the diagnosis absolute.

TREATMENT

The treatment of malaria may be divided into the prophylactic, symptomatic, and specific treatments.

Prophylactic includes: A. eradication of infecting mosquitoes by (1) drainage and destruction of swamps, pools, and other breeding places, (2) oiling breeding places which cannot be drained every few weeks, and (3) stocking water with fish; and B. prevention of infection of and by mosquitoes by (1) screening houses, cisterns, and water tanks, (2) screening and isolation of acutely infected patients, and (3) early detection and medication of malarial carriers.

Symptomatic treatment includes: A. bed rest from 48 to 72 hours, and longer in pernicious cases; C. liquid or soft nutritious diet; C. good elimination of the bowels by enemata, or preferably, by purgatives; D. external heat during the cold stage by the use of blankets, hot water bags, and an abundance of hot drinks; E. antipyretic measures during the fever stage by the administration of cold drinks, cool enemata, if indicated, and coal tar preparations; and F. thorough drying of the body during the sweating stage by towels and changes of bed clothing.

Specific treatment consists of the proper administration of quinine or atabrine combined with plasmochin when indicated. Many years ago Osler said, "The physician who at this day cannot treat malarial fever successfully with quinine should abandon the practice of medicine." Craig, in 1909, stated that, "The successful treatment of malaria by quinine depends wholly upon the proper administration of the drug . . . I have yet to see a single case in which quinine, if given early enough, did not succeed in curing the infection." I think that this is sufficient to say concerning quinine therapy, and feel very sure that none of us need to abandon our practice for lack of knowledge of quinine administration. When malaria is not cured by quinine administration, the fault, as a rule, lies not with the physician, but in the fact that it is difficult to retain the co-operation of the patient throughout a full course of quinine therapy. This is true because the drug must be continued for a long period of time—two to three months—after all symptoms have subsided, and because it produces unpleasant side effects. For this reason I use atabrine and plasmochin exclusively in the treatment of malaria. and would like to confine the remainder of my discussion to this particular therapy.

From my limited experience and from a review of available literature, I am of the opinion that atabrine is well tolerated in uncomplicated cases, complicated cases, pregnancy, and by patients of all ages. It appears to have no injurious effect on the heart, liver, or kidneys, and causes no hemolysis of red blood cells. Apart from occasional yellowish discoloration of the skin and transient nausea, side effects are rare. Certain mental symptoms have been attributed to the use of the drug, but in most of these patients there was a definite history of previous nervous and mental disorders, which were accentuated by the infection rather than the drug. Numerous individuals with so-called psychosis who received another course of atabrine as a clinical experiment did not have any mental symptoms whatever.

As a result of a controversy over the cause of these mental symptoms, Dr. J. B. McElroy, then head of the staff of medicine of John Gaston Hospital in Memphis, ran an experiment in which all patients admitted to the medical wards with malaria were treated with atabrine, and plasmochin when indicated. From 1934 through 1936, 1500 patients were treated. Treatment was not begun until the patients were proved to have malaria by microscopic examination. The dosage used for adults was atabrine 1½ grains three times daily for five days in tertian and quartan types, and E. A.

the same plus one-third grain of plasmochin daily for five days, the dosage for children being in proportion to age. Smears were run daily on all patients until the blood was negative for parasites. It was found that in most cases the temperature was reduced to normal within two, or at the most three days. Usually, at the end of the fourth day, the peripheral blood was free of the parasite. In several cases of E. A. malaria cresents were still present at the end of the fifth day. Then atabrine was discontinued and plasmochin one-third grain was given daily until they disappeared. No case was treated longer than eight days. According to the observers of this series, no psychotic symptoms were attributed to the use of these drugs. The works of Hoops, Ducan, Russell, and Morton, and others bear out these observations.

In my three years of practice I have been fortunate to have only one case of pernicious malaria, which responded promptly to treatment with atabrine. P. T. Russell, who studied the effects of atabrine in malaria in the Phillipines, remarked that as far as can be determined, the drug does not provoke hemoglobinuria and seems to be the best agent yet discovered for treating malaria in the presence of hemoglobinuric fever.

In conclusion, in view of the facts that the atabrinized patient receives more prompt and more complete cure, while suffering fewer unpleasant and untoward side effects than does the patient receiving quinine; that the drug is well tolerated in cases of cinchonism, pregnancy, and blackwater fever; that the patient is more co-operative under atabrine therapy; and that atabrine therapy is less expensive to the patient than adequate quinine therapy, it is my opinion that atabrine is the drug of choice in the treatment of malaria.

What is Wrong With Medicine and Whither are we Going?*

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Certainly something must be amiss somewhere, else why so much confusion, so much talk of regimentation, and such a clamor, for what seems to me a very vague condition, the much-discussed adequate medical care for all of the people? Vague, because no one knows the true meaning of adequate care; what would be adequate care for one individual, would be very inadequate care for some other individual. Then again adequate medical care might well mean compulsory medical care, but we have not yet reached that period in the world's history when any kind of care can be made mandatory.

To avaluate and to understand the conditions confronting us we must look at this matter dispassionately and with minds not too critical. Where censure seems to be, or is directed toward the profession, no one, not even the most sanguine, can dispute the fact that conditions are not ideal and are far from being what they should be. Yet these same conditions, barring outside interference, are not yet as bad as the alarmists are causing the people to believe, neither are they nearly so good, as many of us belonging to the profession have been deluding ourselves into believing.

After giving close thought to this matter and hearing so much controversy about the so-called adequate medical care, and the high cost of such care coupled with the unpleasant knowledge that for twenty years our ranks have gradually been thinning everywhere except in cities, I have at last been very reluctantly forced to the sad conclusion that the profession is not entirely blameless and that there is at least some justification for the public to believe that it is being exploited and in some cases even misused. In a relative sense of the word this is really true.

To reason out and offer any plan that might be helpful, the different things that have led up to this condition must first be taken into consideration, and here I feel that the first and gravest indictment can be placed squarely before the door of the medical profession.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, June 11, 1940.

While engaged in an entirely different field (teaching, to be exact), I saw the entire system change in a year and without warning. Time-tried texts upon which the whole educational system had been builded, and which had at least some moral value were discarded for worthless trash. Those with years of experience and devotion to the cause found themselves lost in a maze hedged about by such classics as "Alice in Wonderland," "The March Hare," and "The Hatter."

The pernicious and regrettable system of standardization had begun, in other words, deterioration and enormously added cost to the whole educational system, and this cost has been added to year by year until the whole state is staggering under the load, and with very questionable benefits to those carrying the load or to those who should be benefited. If we have the ability to think and the courage to be honest with ourselves, we know that most of the progress made in the educational field has been made under the older system, where students were taught to take time and think; now they are forced to memorize and hurry in order to secure necessary credits. If a student can go out and show credits for so many college hours, the manner in which the hours were gained or the knowledge on which they should be based is never questioned. This change antedated by several years the changes that were to follow in the field of medicine.

The wisdom of raising to a reasonable degree the standard of educational requirements for those who are to enter medicine cannot be censured. Certainly any student wishing to enter medicine should be well grounded in the basic sciences and have a practical foundation, but this has been carried entirely too far in the requirement of so many things unnecessary to the student of medicine—things that are of no practical value after he is out. Coincident with the raising of the standard came the weeding-out process, which was carried entirely too far.

The proprietary school with all of its disadvantages and, cursed though it was, had many advantages over the schools of the present day. Those schools were taught by men who were well grounded in the fundamentals and of broad experience, and were doing bedside practice from day to day. They were selected for their understanding and fitness to impart to the student the knowledge they had gained by study and experience. While they might not have been so well versed in the technical side, they knew all about the human side of medicine. The schools of thirty years ago and more, of course, turned out many, many men of mediocre ability, but while they were doing this, they were at the same time turning out some men of very outstanding ability. These men of outstanding ability, through their influence on the men of lesser ability and on the public, have made most of the progress that has been made, and at the same time have given to the human race a medical service that was fairly adequate, at least more than the public ever wanted or asked for. The students graduated in that day looked for locations that would furnish patients, accepted conditions as they were, and did the best they could. The work they have done speaks for itself despite all the propaganda to the contrary.

The schools of today, housed in magnificent structures, with an array of equipment well calculated to hold one spellbound with awe, can do little more for the student than was done in former days, and at a cost so great that only the wealthy can enter. In contrast the teaching is largely done by all-time men with salaried assistants—men who have little or no practical knowledge of the bedside practice of medicine. The student of today may be taught far more technical theories, but certainly far less of the human and practical side than formerly, and in contrast again, the student of today has impressed upon him from the day he enters school that he cannot afford to locate in the small places and country districts and away from the hospitals.

The whole trend of the teaching and the ideas put forth by theorists and dreamers seems to visualize a day in the near future when the bills will have to be paid by some imaginary co-operative plan and everyone will have to be treated in hospitals. If any doubt of this exists, we have only to recall a statement in the press a few weeks ago by the President of the United States, saying that he was reliably informed that young doctors were refusing to locate in the small places because of the lack of hospital facilities. Therefore, in his opinion, more hospitals should be built. But before everyone can be treated in hospitals, or will be willing to be treated in hospitals, the attitude of those running the hospitals and our entire economic system will have to undergo a very complete and radical change.

Before we dismiss the charge—high cost of medical care as fallacious—let us examine ourselves closely and without prejudice; are all of the things we require of our patients necessary? All of the x-rays, all of the special tests, all of the different analyses—these things are expensive and are they really going to help the average case get well sooner? The patient who has the means and the willingness to pay, should be given the full benefit of the whole works, but the patient with little or no means, should be given the benefit of what knowledge and skill we possess without the extras. Automatic steering, fog lights, and shock absorbers make the driving easier; plush cushions and a radio on the dash make the trip more pleasant, yet a Model-T without a starter and with only one light will make the same trip where absolute necessity demands that the trip be made.

Good practice can be done with less than a dozen drugs, some cotton, a package of gauze, bandages, obstetric forceps, a small instrument case, thermometer, stethoscope, and hypodermic with the "ridiculous small black bag" to hold them, provided always we have the brain to use them. Do we not sit in our offices and allow detail men from the pharmaceutical houses to tell us what to prescribe for our patients? Do we not let them cause us to prescribe drugs that are costly, whose merit is questionable, and whose value has not been proved? How can we, if we have been students all these years, casually take the word of men who have been trained in the art of talking while they keep us from thinking?

If all are to receive adequate care at reasonable cost, the plan of teaching will have to be changed and men will have to be graduated who will again be willing to locate in the small places and country districts, and to do this, cost will have to be lowered which can be done without lowering the qualifications of those who are to give the service. Under the present system of teaching where only the wealthy can enter and where the teaching is done by men of the same class, the cities and industrial centers need have no worry, but the small places and country districts comprising something more than sixty per cent of the people are absolutely doomed, for no cry of need, no plan of co-operation or regimentation, not even the building of hospitals is going to locate the graduates of today in the small places and keep them there. Gentlemen, when medicine is placed beyond the means of the men coming from the great middle class and the small places, then the vision has been lost and the altruistic ideals that have placed medicine above all other professions on earth all down through the ages, will be wrapped about and the very life blood slowly strangled out by the merciless tentacles of that giant octopus, commercialism.

An Experience with Atabrine in the Chemoprophylaxis of Malaria

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IT IS WITH some hesitation that I present a paper dealing with malaria to a group whose members have had far more experience with this disease than I, and yet I feel that in view of the continued toll of health and life exacted by malaria in this area the subject of malaria prevention is one that cannot be considered too often.

In the eradication of malaria various methods have been employed but the preferable method of the permanent destruction of the breeding places of anopheles mosquitoes by drainage or filling is frequently impracticable. In such cases other measures such as screening, larvicides, and chemoprophylaxis must be used. The purpose of this paper is to present briefly my experience with atabrine as a chemoprophylactic agent in malaria.

Shortly after coming to the Delta Cooperative Farm a health program was developed for the group immediately under my care, the emphasis in this program to be on preventive medicine. Some points included in the program were: (1) immunization against smallpox, typhoid fever, and diphtheria. (2) immunization of dogs against rabies. (3) regular physical examination. (4) approved water supply and sewage disposal. (5) a program of health education with particular emphasis on proper diet, personal hygiene and habits, intelligent use of proprietary medicines and a knowledge of simple first aid. (6) malaria control to include such measures as: (a) education as to the cause, spread, and cure of malaria. (b) proper screening. (c) eradication of breeding places near dwellings. (d) detection of human carriers and the treatment of these. (e) the use of atabrine chemoprophylaxis.

The last measure was considered because of the frequent cases of malaria which occured in spite of screening and other measures. It was hoped that the loss of time from work and school, the impaired general health, and the expense of treatment would be eliminated or, at least, decreased.

The investigations of many workers in this country and abroad support the fact that atabrine is a prophylactic in malaria, its action being largely to prevent the accumulation of trophozoites in the body to a level at which clinical symptoms appear, although there is also evidence that atabrine in prophylactic doses may ultimately destroy the infection. I do not propose to make an analysis of the extensive literature on the treatment and prophylaxis of malaria with atabrine; however, one thing apparent from a review of the reports of workers in this field is the fact that atabrine, no matter what the scheme of administration, has always had the effect of reducing the incidence of malaria in the population. The degree of protection, however, has varied from one locality to another, the factors of climatic conditions, resistance of host, and strain of parasites influencing the effectiveness of treatment.

The group selected for this experiment was composed of white and negro farm families living in the northern end of Bolivar County; the treatment program was carried on from May through October 1939, or for only one season, pressure of other duties preventing its continuance in 1940. The blood films taken at the beginning and close of the program were kindly examined in the laboratory of the Bolivar County Health Department. The atabrine used in this experiment was furnished by the Winthrop Chemical Company.

In May, 1939, 197 individuals were tested and subsequently divided into two groups; a prophlactic group containing 98 at the outset and the control group, 99. There were only three positive smears among both groups at a time, one tertian in the prophylactic group and 2 tertian in the control; this low percentage of positives is due to the fact that a number of individuals in both groups in the fall of 1938 and spring of 1939 had had clinical malaria for which they had been adequately treated.

The plan of treatment for the prophylactic group consisted of the administration of atabrine twice a week from the latter part of

May through October; the giving of the medication was well supervised, and except in the case of a few isolated individuals there was no question about the drug being regular. The dosage of atabrine was as follows: for adults, 200 mgm. twice weekly on nonconsecutive days; children 6 to 12 years old, 100 mgm. twice weekly; children 3 to 6, 50 mgm. once a week; children under three were not included because of the difficulty in giving the medication to this age group. A group of 23 additional individuals, residing in the area temporarily, were included in the program for the 8-week period of July and August, bringing the total participating in the prophylactic program to 120.

Three members of this group had clinical malaria, two of them having tertian malaria before the second week of atabrine prophylaxis, so they could hardly be said to have had sufficient atabrine; one of these had another attack of tertian malaria in October, but at this time he had taken no atabrine for over a month. The third member developed estivo-autumnal malaria after taking 200 mgm. of atabrine weekly for three weeks; the attack was mild with a low fever and general malaise but no chills and resulted in the loss of only one day from work; a three-year-old child in this family had a severe attack of estivo-autumnal malaria just prior to this.

Of the prophylactic group not continuing to the end of the season, one died following an operation, 10 discontinued because of reaction, and 24 moved away, leaving a total of 86 to be tested at the conclusion. Smears on all of this group were negative at this time, but during the spring of 1940 two members who were here only during July and August and who since leaving had been living in nonmalarial districts, developed clinical malaria; it was subsequently learned that these individuals had taken only 200 instead of the usual 400 mgm. a week while here.

No harmful effects were noted by any patients taking atabrine although 16 had gastrointestinal reactions at some time, chiefly nausea and vomiting. Six of these having reactions took smaller doses at more frequent intervals and had no further trouble. However, 10 were unwilling to continue the atabrine because of the annoying reactions attributed to it; several of these cases simply seemed to be searching for an excuse to stop the drug, while in a few, reactions seemed to be very real. There have been few reports of such reactions in other atabrine experiments, and no adequate explanation can be given for them at this time.

In the control group, 2 of the 99 tested in May showed smears positive for tertian malaria, and both developed clinical malaria shortly thereafter. There were 12 individuals who developed tertian malaria at one time during the summer, and 4 of these relapsed later in the season; 2 developed estivo-autumnal malaria. All cases proved by smear were treated with atabrine with only the four relapses mentioned previously. There were an additional 12 cases who were reported to have had malaria, these cases either being treated by another physician or by the individuals themselves. Sixty-seven of the original group were tested in November and all found to be negative. The prevalent habit of self-medication with quinine and chill-tonics of various kinds undoubtedly helped to keep the incidence of clinical malaria and of positive smears at the close of the season as low as it was.

The effect of prophylactic doses of atabrine in preventing clinical attacks of malaria was striking; only four cases of clinical malaria occurred in the prophylactic group during the entire season or an incidence of 3.2%, while in the control group there were 18 clinical attacks or an incidence of 18%. This effect is more striking when it is noted that 3 of the 4 cases in the prophylactic group occurred either before a sufficient quantity of atabrine had been taken or after a lapse of treatment for over a month. The clinical course of the fourth case was definitely modified, being much less severe than might ordinarily have been expected.

Of the prophylactic group at least 18 had proved clinical malaria during the preceding season of 1938 and at least 10 more claimed to have had malaria during that year but treated themselves with quinine or chill tonic. Many remarked on how well they felt during the prophylactic program, and several were particularly grateful for the fact that they had gone through an entire season without a single chill. Thus far in the 1940 season there have been 14 cases of clinical malaria in the 1939 prophylactic group and it is regretted that the prophylactic program could not be continued through this season, as it would have been extremely interesting to see its effect in a peak malaria season such as this appears to be.

It is impossible to draw any definite conclusions from this one year's experience, but the fact that atabrine chemoprophylaxis has the effect of markedly reducing the incidence of clinical malaria in a population has been further corroborated.

The Treatment of Fractures in the Small Hospital*

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Seventeen years ago Scudder, in the preface of his book, ended with the following paragraph, "It is my great hope that in time it will be generally recognized that fractures of bone should be treated primarily and at as early a date as it is practicably possible by surgeons specially interested in and trained in traumatic surgery. Special surgical work should be done only by those well trained in general surgery. Surgeons of traumatism should find ample occupation in every large community."

There can be no question as to the truthfulness of his last sentence, for in every large city there can be found not only one but several competent orthopedists, but one need only visit these various clinics to realize how inadequate are their facilities to care for the many cases needing special attention.

With the building of our great trunk highways, our farm-to-market roads, the increase in the number of automobiles and trucks and the increased tempo of our daily lives we are going to find an increase in the number of accidents and among this number of accidents there will be, of course, a greater number of fractures. Keeping in step with other advances each community will soon have its small hospital to which a majority of these injury cases will be taken. The future of any one of these injured persons may hinge solely upon what is done for him or her when he or she is admitted to one of these institutions. The average small hospital cannot afford all the equipment for the treatment of all types of fractures. Yet the end results depend a great deal on the first aid treatment, even before the patient reaches the hospital and especially on the method of immobilization at the time of moving him to the hospital.

I am sure we are of one accord with Scudder that the direct and indirect traction is capable of correcting shortening in fractures of the long bones. However, to accomplish this successfully special equipment and fracture beds are necessary as well as a prolonged stay in the hospital. There are a few small hospitals that do have fracture equipment.

The objectives to be obtained in the treatment of fractures are not only the approximation of the fragments, but the restoration of function to the whole limb—a return to normal. The ideal is the accomplishment of these objectives with the least amount of traumatism in the simplest manner possible.

The treatment must necessarily vary with the location and type of fracture. The first essential is relief from pain, then treatment of shock and immediate immobilization of the limb. This immobilization should be secured at once, on the spot, at the time of injury by some handy form of fixation, to allow easy and painless transportation to a place suitable for carrying out the details of fracture treatment. "Splint them where they lie." Hasty attempts at reduction under unfavorable conditions result in failure to bring about proper reduction and cause the patient unnecessary pain and may cause a simple fracture to become compound.

In war surgery fixation upon the field of battle before transporting has been found of utmost value in preventing shock, pain and complications from the shifting and movement of the fractured bone ends.

It is our opinion that the majority of fractures can be reduced by manual force, under complete anesthesia, and the position of the fragments maintained in reduction by external immobilization and traction. On the other hand, it is our contention that every fracture which cannot be successfully reduced and maintained in reduction should be operated and treated by open reduction by a competent general surgeon or referred to an orthopedist for treatment.

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*Read before the Mississippi Chapter of the American College of Surgeons, May, 1940, Jackson, Miss.

In Mississippi, especially in the remote counties, it is almost an impossibility for the general surgeon to secure the services of an orthopedic surgeon for most of his patients, and so, of necessity he must treat them to the best of his ability. As a large majority of the fracture cases admitted to our private hospitals are either charity cases or patients with low incomes, it is almost impossible to refer them to an orthopedic surgeon if such is indicated.

The cost of hospitalization and the lack of a large centrally located charity hospital in Mississippi, where such patients can be sent, must of necessity increase the number of cases to be handled in our small private hospitals. Due to the limited charity funds in our state it behooves the surgeon to release his indigent cases as soon as possible so that other emergency medical and surgical cases may not be deprived of hospitalization.

In view of the above facts, with special emphasis on the time element, we have for the past five years employed the technique of open reduction and internal fixation in many of our cases rather than employing traction. This technique has greatly reduced the number of days of hospitalization in fracture cases and at the same time has secured better functional results than would have otherwise been possible. In view of our present surgical technique such a procedure is not considered radical. Scrupulous attention to surgical asepsis and special attention to the anatomy of the soft parts in relation to function must be observed to avoid the disastrous results which have occurred in the past following open reduction and internal fixation. Exposure converts a simple fracture into a potentially compound one. Under proper conditions these risks are not serious and are far outweighed by the advantages of accurate replacement of fragments and secure fixation.

The methods most commonly employed by us in internal fixation are the use of silver wire in oblique fractures of the long bones and Vitallium plates, screws and nails in other types of fractures. Campbell and Speed regard Vitallium plate as the method of choice in cases requiring open reduction and internal fixation. They state that "experimental and clinical evidence indicates that Vitallium is the most silent of all the metals or alloys employed for internal fixation." Since the introduction of Vitallium plates we have employed this method in only six cases and no complications have arisen, while with Vanadium steel we have had three cases in which we have had to remove the metal on account of loosening of the screws—with osteomyelitis in one case.

Our records show that in 1939 we admitted thirty-nine cases of fracture to the Oxford Hospital. Fifteen cases were referred to Memphis immediately because of the severity or because we felt that we were not equipped sufficiently to give the best results. Within the past three years we have had nine cases of fracture of the hip in elderly patients which were treated with the Roger Anderson Well Leg Splint. In only one of these cases were we unfortunate enough to get non-union and this case is now in the Hospital for Cripple Adults.

I wish to report a series of nineteen patients with fractures of various types—five with fractures of both bones of the leg. Of this number two were compound. Two were treated by open reduction, Vanadium steel being used in one of these and Vitallium in three. The fifth was reduced by use of pins in the Roger Anderson frame. Seven fractures of shaft of femur—five treated by open reduction—Vitallium plates in three and silver wire in two. The remaining two were reduced by Roger Anderson Well Leg Splint. Six fractures in and around the hip, all treated by the Roger Anderson Well Leg Splint. One olecranon fracture—wired with silver wire. The oldest in the series was eighty plus and the youngest ten. The nineteen patients had a total hospitalization period of two hundred and fourteen days —making an average of eleven and a half days per patient.

Appeal to small hospitals to work toward securing a centralized hospital in Jackson for treatment of orthopedic and difficult fracture cases.

1. C. J. Livingston, white, age 36, both bones, leg, 22 days.

2. A. Y. Owens, white, age 34, both bones, leg (compound), 10 days, plate recovered, Vanadium.

2. George Butler, col., age 40, both bones, leg (compound), 10 days, muscle between fragments.

2. Aubrey Mathis, white, age 28, both bones,

leg, (open red.), 9 days, osteo. plate recovered, Vanadium.

Mr. Palmertree, white, age 44, both bones, leg, (open red.), 9-10 days.

Martha Patton, white, age 14, pelvis and femur (R-A) 7 days.

Miss Ella McGuire, white, age 80-plus, femur, (open red.), 14 days. 2 is with R. A. leg splint.

Mrs. M. M. Andrews, white, age 78, hip (R-A), 16 days.

Judson Davidson, col., age 30, olecranon, com., 3 days.

A. G. Franklin, col., age 10, femur (open red.) 5 days.

Willie Howard, col., age 25, femur (open red.), 8 days.

Early Martin, col., age 30, femur (open red.), 12 days.

William Pegues, col., age 34, dis. left hip, frac. rt. femur (R. A.) 16 days.

John Bozo, col., age 29, femur (open red.), 7 days.

John Guinn, white, age 60, femur inter. troch. (R. A.) 4 days, plate shows over reduction.

Mrs. Higginbotham, white, age 64, hip, (closed red), 8 days.

Mrs. Holland, white, age 60, hip, (closed red), (R. A.), 25 days. Slight over reduction.

Isaah Callicutt, col., age 50, hip, (closed red) (R. A.), 3 days.

Roy Lee Reid, col., age 12, hip, (closed red) (R. A.), 11 days.

Cost to the state for 11 days at $2.50 per day $27.50; operating room $7.50, nothing for x-ray and splints, costs and plates. The total cost averages $35.00, about what a tonsillectomy costs.

Caesarean Section*

V. B. PHILPOT, M.D., F.A.C.S.
HOUSTON, MISS.

CAESAREAN section, or laparohysterotomy, is an operation in which a baby is removed from the uterus through an incision in the abdominal and uterine walls. In a report by Michaels in 1822 of 258 cases the death rate from this operation was 54%. Mayer, 45 years later, collected 1605 operations but with no decrease in the mortality rate. Porro, eight years later, or in 1876, introduced supra vaginal amputation of the uterus after the removal of the foetus, but no decrease in mortality. As late as 1884, Godson collected a list of 152 cases with the same high death rate. It has only been during the present century that the death rate from Caesarean section has gradually decreased because of more care in selecting cases and in improved aseptic and surgical technique, but even today in the United States, according to the best available information, the death rate average remains high, between seven and ten per cent. I know of no condition in which there is such a wide variation in the mortality rate in the various clinics of the country, and I mention just a few of these reports to show this as follows:

Report of Frazer and Spartling, February 15, 1938, Surgery, Gynecology and Obstetrics, of 562 Caesarean cases with an average maternal mortality of 3%, foetal mortality of 6%.

In the report of Denormandie of Caesarean sections in Massachusetts in 1937 of approximately 2000 Caesarean sections, the maternal death rate was a little less than 4%.

Lynch collected a series of 12,950 deliveries by section and the mortality was 4.1%.

Smith's statistics from four hospitals of Indianapolis from November 1, 1927, to November, 1928, showed a maternal mortality rate accompanying Caesarean section of 11.3%. Since 1934, however, this mortality rate has fallen to below 5%.

Some of you may remember a report that Dr. Jeff Miller of New Orleans gave some time before his death of a series of Caesarean sections in New Orleans in which the maternal death rate was 15%.

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*Read before the Section on Surgery at the seventy-third annual session of the Mississippi State Medical Association, Jackson, Miss., May 14-16, 1940.

In a report of Eardley Holland in analyzing 2197 Caesarean sections in the British Isles the following maternal mortality rate from his study if very significant:

	Per cent
After elective Caesarean	1.6
Patients operated early in labor	1.8
Patients operated late in labor	10.0
After induction of labor	14.0
After attempted forceps	27.0

In our own small clinic we have collected a series of 71 Caesarean sections with four maternal deaths, or about 5.6%. Our infant mortality was about twice the maternal mortality.

The average infant mortality in all reports is slightly higher than the maternal mortality.

In studying the above and other reports of Caesarean sections we can easily assume that the mortality to a large extent is dependent on the complications of labor, the number of examinations, attempts to deliver by forceps, exhaustion from prolonged labor, and improper prenatal care. Any competent surgeon or gynecologist who does not show as good a mortality record as other competent surgeons, or gynecologists, in all probability has been unfortunate in securing badly neglected cases instead of a series of elective ones. The great advantage in studying these reports, especially the last one by Holland, is that we learn not to operate when there is any other way out of it.

The operation for Caesarean section, being a fairly simple procedure, as a rule, has resulted in an erroneous belief that it is so safe that it may be performed regardless of the indications. Nothing is further from the truth and there is no condition in surgery where good judgment is more valuable than in studying the indications for a Caesarean section, preparing the patient for such a procedure and the time and choice of operations. Different authors list different conditions as indications for this operation, but the following is substantially the present day consensus of opinion as to the absolute and relative indications:

1. ABSOLUTE INDICATIONS

Caesarean section is a necessity where the passage pelvic outlet is so contracted, or the passenger, the foetus, is so large that it cannot be delivered through the natural passages. Sometimes this can be determined by pelvic measurements, but in many instances it is necessary for a trial of time in actual labor to determine whether or not the baby can be delivered.

2. RELATIVE INDICATIONS

(1) Minor degree of contracted or deformed pelvis
(2) Pelvic tumors
(3) Dystocia
(4) Previous foetal deaths
(5) Placenta Praevia
(6) Separation of the placenta
(7) Toxemia pregnancy
(8) Previous sections
(9) Medical complications
Debilitating diseases
(10) Elderly primiparity

Please bear in mind that the relative indications given above mean that Caesarean sections in such cases should be considered as one of the treatments that may be indicated, and in many instances are indicated, but, as I have already stated, each patient should be studied carefully and all available information should be secured. The surgeon doing this operation should evaluate his own experience and limitations in the surgical procedure.

CONDITIONS DURING AND FOLLOWING OPERATIONS TO BE SERIOUSLY CONSIDERED:

1. SHOCK. In my opinion, the shock of a Caesarean section, especially when done under local anesthesia, is not much more than normal delivery and certainly less than when forceps are used, or where a great amount of trauma is done in a vaginal delivery.

2. HEMORRHAGE. As a rule, this is but a serious complication, but it may be, and it should be thought of and watched for at all times, and such methods as are necessary should be used to prevent it, such as the ligation of all large bleeders and hot packs within the uterus.

3. INFECTION. This is by far the most serious complication to be considered. Some years ago Polak gave the incidence of pathogenic organism in the uterus as 28.8% in uncontaminated cases, and 50% in cases in which the patient has been previously examined. We readily see that this is indeed a most serious problem. The low incision as recommended by DeLee, together with the use of abdominal packs and suction has done a great deal in preventing a general peritonitis following Caesarean section.

4. HEART, LUNGS AND KIDNEYS: One or more of these organs may have already been damaged from the strain of pregnancy or its complications, and frequent examinations and proper remedies should be instituted at all times to care for these organs, as well as the general condition of the patient.

TIME OF OPERATION

The most favorable time for a Caesarean section is immediately after labor has begun, but in the majority of cases that we see a favorable time cannot be selected by the surgeon, but one should not wait until the patient is exhausted in a prolonged labor, as statistics will show that sections performed late in labor are far more dangerous.

PRELIMINARY TREATMENT

1. As we have already indicated, a thorough and careful study of our patient with all available consultation is of the utmost importance.

2. Rectal examinations should be used, and only under the strictest aseptic precautions should one make a vaginal examination at all, and then only one time. When all kinds of examinations and efforts at delivery have been made, one should remember vividly the dangers and not do a Cesarean as a last resort, or as a way of escape from incompetent obstetrics.

3. It is wise to have a properly matched donor for a blood transfusion in case this should become necessary.

4. Catheterization of the bladder immediately before the operation.

5. The usual preparation for a major operation, except no opium is used.

CHOICE OF OPERATION:

There are a number of operative procedures. All of them have their value, but the Beck and DeLee low cervical has reduced the mortality of Caesarean sections tremendously in this country. In DeLee's own clinic at the Chicago Lying In Hospital he reports a maternal mortality in a series of 874 of these operations of 1.26%. The following modification of this operation is practiced by our group:

Our choice of anesthesia is first, local; second, gas oxygen; third, spinal. The greater the risk, the more important it is to use a local anesthesia. In fact, local is by far the anesthesia of choice when it comes to reducing the mortality rate.

A midline incision is made from the umbilicus to the pubic bone through all coats of the abdomen. A transverse incision about 4 inches long is made through the peritoneal coat 1 inch above the bladder wall on the anterior lower portion of the uterus. The peritoneal coat is dissected downward on the cervix, retracting the bladder in front. A longitudinal incision is then made on the anterior uterine wall down into the cervix of sufficient size to deliver the foetus. A suction is in readiness to remove the fluid as soon as the uterus is opened, quick delivery of the foetus in the most convenient way not to tear the incision, is done. Pituitrin is given immediately. Pressure is applied to the uterus and the placenta squeezed and removed by slight traction. The uterine wall is closed by three layers of chronic catgut, the middle layer being with interrupted sutures. The retracted flap of peritoneum is then brought in proper place and sutured. We have not found it necessary to leave a pack in the uterus to prevent hemorrhage, as advised in most cases by DeLee. Abdominal wound closed with three layers of sutures.

(Film in color of above described operation shown here)

When it is absolutely necessary to subject a patient with a well-known infected uterus from previous manipulations to an abdominal delivery, the procedure of choice is the Caesarean hysterectomy, since any other operation carries a mortality, according to some observers, of as high as 25%.

I also call your attention to an operation known as the Demuth as published in American Journal of Surgery, January, 1939. I have never done this operation but I have never read a technique more plausible in preventing hemorrhage, as well as infection. I shall not take time to describe this operation but simply call your attention to it.

AFTER TREATMENT:

After treatment is that given any other patient following surgery, plus glucose solution given intravenously for the first 24 to 48 hours together with pituitrin, or ergotrate, as indicated to stimulate uterine contractions and prevent hemorrhage. Should the necessity arise, blood transfusion should be given.

CONCLUSION:

In conclusion I suggest that both surgical skill and judgment are essential in handling a patient where there is a possibility of a Caesarean section being done. Technical skill without judgment, or judgment without skill, is bad, but if I had to choose one or the other, I would prefer judgment without skill. I repeat that the obstetrician or medical man and the surgeon should lay aside all prejudice in favor of, or against, Caesarean section, and should utilize without hesitation that method, which, in their final opinion, offers the greatest hope of a successful termination of the case for both mother and child, especially the mother.

(Paper illustrated by slides).

DISCUSSIONS

DR. W. H. BRANDON (Clarksdale): Dr. Philpot's excellent paper on Caesarean section brings many interesting questions before us. In any study of statistics, one is immediately impressed with the relatively low mortality and morbidity figures for Caesarean section performed before labor starts or very early in labor. The longer the labor has progressed, the greater the mortality rate. Unfortunately, only in a small proportion of cases is there an absolute indication for section. In the borderline pelvis, the test of labor is frequently instigated. If the time honored regulation "test of labor" is employed, it implies 2 hours of second stage pains with a dilated cervix and ruptured membranes. This makes a Caesarean section very dangerous, in my opinion, as it allows considerable chance of infection to extend through the dilated cervix, with its protecting mucous plug washed away. Frequently, one may gain the desired information with shorter periods of labor. As Dr. Philpot has said, excellent judgment in selecting the type of procedure, vaginal or operative delivery, is required here.

The use of section in retro-placental hemorrhage has become more frequent in recent years. Here, one is frequently dealing with a late stage of toxemia, the foetus may be dead. The mother's welfare is usually the only one to consider. Porro section is sometimes necessary, due to the failure of the uterus to contract. Conservative surgical procedures are indicated as these patients are usually toxic and do not tolerate prolonged or severe surgical procedure well.

In pre-eclampsia, where the patient fails to respond to intensive thorough therapy and becomes progressively worse, delivery by the abdominal route is advisable, especially where the cervix is long and hard.

The five types of operation: 1. Vaginal section—reserved for patients not too far advanced where rapid evacuation is advisable, especially where the cervix is rigid, long, and undilated and the pregnancy has not reached the seventh month. Absolute requisites before this operation is attempted are: a. Uterus must be movable; b. Child not too large and pelvis ample; c. Tissues must not be edematous or friable.

2. Classical operation: Best results obtained if this operation are restricted to those cases where membranes have not ruptured or only recently ruptured. This is the operation of choice in the hands of the occasional operator. It is the simplest and quickest type of section. Its disadvantages are: a. Greater danger of peritonitis if uterus gets infected. b. Uterine scar more apt to rupture in succeeding labors.

3. DeLee low cervical section: This operation should be used where danger of infection of uterine cavity exists. Being extraperitoneal, there is less danger of peritonitis, less adhesions and less hemorrhage because placenta is usually attached above line of incision. The scar is stronger and less apt to rupture. Its disadvantages are that it is a much more difficult operation and should not be attempted by the occasional operator.

4. Porro section: Used only where sepsis requires supervaginal amputation of uterus, or in severe and uncontrollable hemorrhage or rupture of uterus. Occasionally used for large fibroid tumors complicating pregnancy.

5. Portes section: The uterus is exteriorized in the presence of a severely infected patient in whom the element of time is all important. The uterus may be later closed and returned to the abdomen or amputated.

Dr. Lawrence W. Long (Jackson): I think that Dr. Philpot's presentation was very timely and very good. There are a few points I would like to stress and call to your attention. I believe that a classical section should be used when it is absolutely necessary for a very rapid delivery in an individual; otherwise, the low section should be used, and the classical can be used also more advantageously without any fear of trouble when the patient has not been examined and when the patient has to be sterilized at that operation, assuring her of no future pregnancies, and not even getting into trouble with the scar.

About ten years ago, being interested in spinal anesthesia, I did many deliveries and worked with it in obstetrics, and I corresponded with all the leading men in obstetrics in making use of spinal anesthesia and they said they condemned it because the patients did poorly, some of whom died. Since then I have understood just what happened. They have a good deal of congestion and a lot of blood is in their viscera and that is one of the reasons we lower the patient's head for a spinal anesthesia to allow the blood from that viscera to slide back into the heart so it would be pumped out again. Since the intravenous injection of glucose and saline in a spinal anesthesia forces the blood down and back into the heart we have had no trouble with it in obstetrics, and it should be used quite often. One other point that has been developed is the drainage of the uterine cavity following Ceasarean section. I believe it cuts down on infections. They have invented the shuttle, about the shape and size of the index finger. It has a hole in it so that the pack can be sutured into this and left in the uterus; that assures opening of the cervix immediately; there is good uterine drainage and drainage from the uterine wall, so that any infection that might set up will pour its drainage through the uterine cavity and into the outside through that hole.

DR. R. B. CALDWELL (Baldwyn): I have read Dr. Philpot's paper with much interest and do not think he has left me much today. He has reviewed the literature and summarized it for us and given his personal experience also. I was anxious for Dr. Philpot to tell us just exactly how to determine just what cases should have a section. All of us get cases that give us plenty of worry, cases which make us feel like giving up. We have to be careful, be conservative, but sometimes we try this and wish we had done a section when it is too late. In case of doubt I believe that the x-ray can be of service to us in deciding whether a section should be done. Routine x-ray of expectant mothers may be the order some day and may prove very beneficial. Two weeks before term would be about the best time we think. I think the x-ray more valuable than pelvic measurements.

I do not care for rectal examinations except for the prostate and hemorrhoids. We think you had better let the infection in the rectum stay locked up there.

As a prevention of further pregnancies I have placed the fimbriated end of the tube under the perineal layers of the uterus and fixed it with one stitch. A hemostat can be pushed under the peritoneum of the uterus for about one and one-half inches and then through it and pick up the tube and pull it back. This takes just a minute and it works well for prevention. I do not know the name of the procedure, but you may call it the Philpot-Caldwell anti-conception modification or what you want.

I want to thank Dr. Philpot for his paper and for the privilege of discussing it.

DR. H. R. SHANDS (Jackson): I would like the privilege of discussing this paper for a few moments. First, I want to comment on the excellent work which Dr. Philpot demonstrates he is doing. On yesterday, he made what I consider a remarkable statement to me. I was looking at his motion picture which demonstrates his operative work. In this connection, he showed, in the motion picture room, a very fine example of colored photography. Knowing that these pictures are, at times, quite difficult to take accurately, I asked him who his photographer was. He stated that the pictures were taken by a colored boy who had been in his employ for the past seven years. I never saw much better pictures and I think this is a tribute to the colored boy.

Now in regard to this paper, it is exceedingly gratifying to me to know that the adverse criticism of the use of Caesarean section, in properly selected cases, is subsiding. On at least two occasions, before the Southern Medical Association, I have had occasion to report our results in obstetrical conditions treated by Caesarean section. At times, the criticism of this procedure by the various professors of obstetrics has been rather caustic. Within the last year I received a letter from a prominent professor of obstetrics in a nearby university apologizing to me for the rather harsh criticism he made in discussing my paper. He stated that he was finding that Caesarean section was more generally useful than he had thought a number of years ago.

It is remarkable that the results obtained in Caesarean section vary so widely. Dr. Philpot has given a summary of his results. Our results at the Baptist Hospital in Jackson, up to 1937, practically coincide with his. In the paper I presented on this subject in Meridian in 1937, I gave our results for the past fourteen and one-half years, giving a mortality of 7 in 365 unselected cases treated by Caesarean section. Of this number, 35 had eclampsia with convulsions and 4 of these cases died.

Now as to one practical point in the performance of Caesarean section: We greatly favor the low Caesarean section, and believe that the transverse incision through the low uterine segment possesses a number of advantages.

DR. PHILPOT (closing): I would like to comment on what all the gentlemen who discussed this paper said, but it is growing late and I know the House of Delegates wants to get busy. I just want to thank them very sincerely for their remarks and constructive criticism and I shall endeavor to profit by it.

Endocrine Therapy in General Practice*

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THERE have been few fields of medicine which have made such rapid forward strides in the way of therapy or of physiology during the past decade as the field of endocrinology. Every passing year sees new hormones being added to the armamentarium of the endocrinologists, and sees the subdivision of the already existent hormones into their several constituents; the superfluous elements are going into the discard and the active elements lending themselves more readily to greater and greater concentrations. Coincident with these new physiological discoveries other uses are being found for those hormones which are already available for our use.

I would like to take the time here to go over some of these new discoveries which are being made, but since they are for the most part either incompletely developed or still in the theoretical stage, and deal chiefly with the experimental phase of this subject, I will not enter into a discussion of them.

In speaking of the endocrine glands, either of their normal function or of their dysfunction, let us always bear in mind that we are not dealing with any one of them individually, or as a separate entity, but rather we are dealing with a very complex and delicately balanced group of glands each acting harmoniously with all the others. Therefore let us remember that in nearly every case needing endocrine therapy we are viewing a case of pluriglandular pathology and we should treat our patients accordingly.

There is no better illustration of this fact than that condition which is known as Froehlich's syndrome which is primarily the result of a deficiency in the production of the gonadotropic principle which is elaborated by the anterior lobe of the pituitary gland. This condition is characterized by an underdevelopment of the genital organs and by extreme obesity. In a large percentage of these patients the obesity from which they suffer is to some extent caused by a deficient thyroid gland, and therefore it may readily be seen that many of them will respond to treatment more readily if they are given adequate doses of thyroid extract concomitantly with one of the gonadotropic hormones.

There has been considerable discussion as to whether better results are obtainable by using whole lobe extracts or by using one of the many sex stimulating principles on the market, but the consensus of opinion[1] seems to be that it is best to use one of the gonadotropic preparations, and, since the treatment is usually a prolonged one, to intersperse it with a short series of injections of the whole lobe or its extracts. In some cases, however, the use of a whole lobe extract will be found to be more efficacious. At times patients will be encountered who are quite obese and who have a lack of genital development but may still be normal or nearly normal in height, and these individuals should be given one of the gonadotropic preparations. On other occasions a patient may in the course of treatment with a gonadotropic preparation have the genitalia reach normal proportions before normal height is attained, and when this situation occurs the patient should be switched to some extract of the whole lobe in order to have the growth factor in larger quantities.

Whenever therapeutic agents of any description are mentioned or discussed the inevitable query as to the proper dosage always arises, and in dealing with this particular type of therapeutic agent it is the most difficult of all questions to be answered specifically. In fact, the reply must be to give a large enough dose. As to just what is meant by the term, a large enough dose, in this connection we must again resort to the abstract in answering and say that it is enough to produce the desired therapeutic effects in each individual patient. This is one of the many reasons why the practice of endocrinology does not become monotonous; that each patient must be more or less experimented with in order to determine just what dose is sufficient, as well as just which preparation is the most efficacious for that particular patient.

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Most authors, however, feel that it is best to indicate the treatments of this dyscrasia with small doses, about 100 to 200 units, to be given twice weekly, and then if the patient's condition does not respond sufficiently after a month of treatment with this dosage, the number of units given should be doubled, and still again the dose should be doubled if need be until satisfactory results begin to make their appearance. There is, fortunately, not much chance of an overdosage with this particular type of hormone, so that more and more we are giving almost heroic doses at the very onset of treatment. Since the course of injections in most cases will be prolonged, for at times a year or even for several years, a rest period of several weeks to a month may be allowed at intervals during the treatment.

Cryptorchidism is another condition in which we may be able to discover not only a deficiency of one endocrine gland but possibly of multiple glands being the cause or causes of the disorder. In dealing with this condition, either of the unilateral or of the bilateral type, we very frequently find the patient to be one of the obese types as already described, and if such be the case we must necessarily give the patient the benefits which are obtainable through the use of thyroid extracts.

This does not mean that cryptorchidism is to be found only in the obese, for it may just as readily occur in thin individuals; but some endocrinologists do advance the theory that these patients who are quite obese may be more readily corrected of this condition through the use of hormones than the thin, slender patient.

Every case of cryptorchidism should be subjected to the most minute and discriminating examination in order to determine whether the failure of proper testicular descent is due either wholly or in part to some mechanical defect in the patient's anatomical structure. If such defect is the main cause of this lack of descent then it very probably will have to be corrected surgically.

However, if a thorough examination fails to reveal whether the condition was caused by faulty mechanics or by a deficiency of gonadotropic substance, the patient should be given a course of some sex stimulating hormone over a period of from three to six months in any event before resorting to surgery. By adhering to this method routinely a great many borderline cases will be afforded full and lasting relief without having to succumb to operative treatment, and still other such borderline cases while not having complete correction will be better fitted for the operation and the surgical procedures will be more easily accomplished.

Here let me state that whenever a patient is being given a course of any of the gonadotropic hormones or hormone-like products he or she should always be checked up on at very frequent intervals for the presence of sugar in the urine, for it has been determined that very often a course of one of these preparations will cause a glycosuria to develop. Still another caution which must be exercised in this type of therapy is to have patients subjected to a complete x-ray examination periodically, as we may infrequently find patients who will exhibit symptoms of a premature epiphyseal closure of the long bones, especially during the onset of puberty.

Until recent years there has been one phase of endocrine therapy in which the patient was offered very little hope of any permanent relief. This condition was that of impotence in the male, which in the past was treated mainly by way of psychotherapy, placeboes, or by genito-urinary irritants. But now due to the recent isolation of the male testicular hormone, much better results may be hoped for in persons who are so afflicted. This hormone has been identified chemically as testosterone propionate.

In treating impotence close attention should be given to the general health, all foci of infection should be removed and any debilitating conditions should be corrected at the same time that testosterone therapy is being administered. Here, too, we very frequently find that the cause of the trouble is pluriglandular in nature, being caused by pituitary, adrenal, or thyroid insufficiency as much as by testicular insufficiency.

The prognosis of impotence treated with hormones is much more helpful in younger men than in men of middle age or beyond. The best therapeutic results are obtained in young men through the use of a stimulating therapy with one of the gonadotropic hormones. In individuals of middle age or beyond, however, the gonadotropics should be used very cautiously due to the fact that a prostatic hypertrophy may develop following their use. It is usually advisable to treat the impotence of these older patients with the male sex hormone.

This hormone, testosterone, is also giving excellent results in the treatment of prostatic hypertrophy, since this condition is in some way dependent upon the decline of sex hormone development or to a failure in the utilization of the sex stimulating hormone of the anterior lobe of the pituitary gland. In all cases of prostatic hypertrophy the patient should be given the benefit of male sex hormone therapy before operative measures are advised, except in cases where the operation is deemed an emergency procedure. Many patients will obtain relief painlessly if physicians would adhere to this rule in their treatment of this condition.

A great many cases of impotence will also be found to be suffering from sterility. This condition is found in both sexes, except that in the female we call the former condition frigidity. Sterility of both sexes will as a rule respond favorably to the administration of anterior pituitary sex hormone or to the whole lobe extracts, and in the female besides bringing about ovulation will also at times correct the frigidity which is present. In the male if this sex stimulating therapy does not improve the sterility, then substitution therapy should be instituted in the form of the male sex hormone, testosterone, as the failure of response to stimulating therapy reveals that the testicle is not capable of producing its own specific hormone.

In the female there are a great many menstrual disorders which may be overcome through the various sex stimulating hormones or by substitution therapy with one of the ovarian hormones. However, let us remember in this connection also, that a great many patients suffering from menstrual disorders may have the basis of their trouble in some nonsexual endocrine gland or in some pathological defect other than endocrine. For example numerous women suffer from menstrual disturbances caused by a hypofunctioning thyroid gland; while the debilitating diseases and the blood dyscrasias, as well as tumors and pathological infections of the genital organs, will also throw the menstrual cycle out of balance.

But after a careful examination has ruled out all these possibilities as to etiology and we find that none is the direct, underlying cause of our patient's menstrual complaint, we must then turn to the endocrines for the source of the trouble and look to their judicious usage to give relief. In treating these conditions which cause menstrual dysfunction, we usually find that the best results are obtained by employing both the gonadotropic and either the estrogenic or non-estrogenic ovarian hormones.

In amenorrhea, as a rule, we find that it is best to use a combined treatment of estrogenic hormone and gonadotropic hormone. The reason for this is that in this condition we are dealing with ovaries which either do not react to the sex stimulating properties of the anterior pituitary lobe hormone, or which do not have any of this sex stimulating hormone to which they can react. Therefore by initiating the therapy with an estrogenic preparation we will be able to get immediate results, and by following up this treatment with some courses of one of the gonadotropic hormones we will be able to secure more lasting and permanent results through their stimulating effect on the ovaries to produce their own estrogenic hormone.

This use of both substitution and stimulating therapy in combination will also be found to produce better and faster results in the treatment of functional uterine bleeding; except that instead of using an estrum producing hormone, we must use an estrus inhibiting hormone, progestin, along with the gonadotropic hormone. It must be remembered in this connection also that the dosage which should be used is not so much any certain number of units as it is to be sure that we give enough to obtain the desired results. It can be stated, though, that for younger women a smaller dose will usually suffice to give the same results as a larger dose would in an older woman.

A certain percentage of these patients having menstrual disorders caused by a deficiency of one or more of the endocrine glands will not respond to any of the aforementioned methods of therapy, all endocrine treatments will prove futile, and then we must resort to the small, so-called stimulating doses of the roentgen ray over the ovaries or the pituitary gland or both. Caution should be exercised in this mode of therapy, however, not to give a castration dose of the x-ray unless the patient is near the menopausal age. And should the treatment by this method fail also, then there is nothing left for us to do but to advise an immediate hysterectomy.

There is one condition which is now being treated by means of a sex hormone successfully, which until recent years comparatively, was viewed with a great deal of alarm and apprehension for the patient's prognosis. This malady, habitual abortion, was as often as not treated with a view toward bringing the pregnancy to as rapid a culmination as was possible, in order to save the patient from prolonged pain and the danger of a possibly fatal hemorrhage. The therapy of this condition was radically changed, however, following the isolation of the estrum inhibiting hormone, progestin.

Lackner and his co-workers found, through their work in this field, in 1936 that progestin, the hormone elaborated by the corpus luteum, nullified the effect of the posterior pituitary hormone on the uterine musculature, while estrogenic substance, theelin, sensitized the myometrium to the oxytocic principle of the pituitary gland. The former would lessen the intensity of the uterine contractions while the latter would heighten them. They found that one rabbit unit of progestin would completely nullify the oxytocic effect of one cubic centimeter of pituitrin.

For the pregnancy to go through to a full term there must be maintained constantly by nature a delicate balance between the amount of progestin and of estrogenic hormone being produced at all times. Because from what has already been said relative to the physiologic activity of these antagonistic hormones we can readily see that a deficiency of progestin would result in a spontaneous abortion or premature labor through removing the inhibiting factor to pituitrin, while an excess of estrogenic hormone would cause the same condition through its sensitizing action on the muscles of the uterus toward pituitrin. In either case the remedy obviously would be to give substitution therapy in the form of the corpus luteum hormone.

Usually in such cases it is given in doses of one rabbit unit twice daily until relief is obtained or in larger and more frequent doses if needed.

Dysmenorrhea is many times a result of increased motility of the uterus during or just before menstruation and is therefore also amenable to treatment by means of injections of progestin.

All the conditions mentioned thus far which are being treated with the endocrines have been of an endocrine origin themselves, but now we come to several disorders which although they have an obscure connection with some one of the endocrine glands, they are not caused directly by a dysfunction of any of these glands.

We are all aware of the efficacy of substitution therapy with theelin during the menopause, due to the cessation of the normal production of this hormone by the ovaries; but there are other conditions which make themselves apparent at this time of life which are also amenable to estrogenic hormone therapy.

There seems to be some definite predisposition for various mental disorders or psychoses to make their appearances during or immediately following the menopausal age. The most frequent of these is the condition termed involutional melancholia. Prior to the last three or four years very favorable reports were heard from various sources regarding the treatment of this mental disorder with the estrogenic hormone in the concentrations and dosages as were then being administered; but in more recent years, due to the employment of this substance in massive doses, theelin has begun to be considered as almost a specific in involutional melancholia occuring during menopause.

At present the treatment is usually begun with the administration of from 30,000 to 200,000 international units during the first month and then gradually tapered down to a maintenance dose which is then given for some time. The severity of the case when it is first encountered determines how large a dose is to be given during the first few weeks of treatment, the more severe cases receiving the larger doses.

Certain other psychoses which happen to make their appearance at the menopausal age are also being given greater impetus toward recovery by the employment of theelin in conjunction with the regular therapy. Notable among these are the schizophrenias and cerebral arterio-sclerosis. Although these are the types of psychoses which are most benefited by the use of theelin, it may be stated that any of the other psychoses occuring at the menopausal age will be definitely aided through the incorporation of theelin in their treatment.

Patients with any mental disorder who are suffering at the same time from hypogonadism usually have a much better chance for recovery than do patients so afflicted who do not have a concomitant hypogonadism .

To quote Molony on this subject: "To treat any menopausal disorder otherwise than by organotherapy is unscientific, and, in most cases unnecessary; to modify the abnormal condition by supplying extracts containing the deficient hormone or hormones is rational in therapy, and, I maintain, successful in practice."

A still more recent clinical usage for the estrogenic hormone, theelin, is in the treatment of a skin condition, photogenic dermatitis, which is an eruption caused by a sensitivity of the skin of certain individuals to the rays of the sun. Most women who suffer from this intolerance of their skins to the rays of the sunlight have some menstrual disturbances as well, and in treating either of the conditions with estrogenic hormone the other disorder usually shows improvement at about the same rate of speed. This treatment is effective in the male who is suffering from this form of dermatitis as well as in the female, and in these males the amount of estrogenic hormones found in the urine is definitely lower than that normally excreted. The normal amount of estrogenic substance in the male urine is, in the average case, about the same as that amount which is found in the urine of the normal, non-pregnant woman. Lancaster, in his paper on this subject, is of the opinion that endocrine therapy, if used judiciously, will be found to play a part in the solution and management of the allergic patient also.

Theelin, the estrogenic hormone, is also being used in the treatment and the control of atrophic rhinitis in both the male and female. It is used, in this condition, in the 10,000 unit ampoule, and is applied by dipping a pledget of cotton into the ampoule and painting the mucous membrane of the nasal cavity with the hormone. It is also employed as a nasal spray so that the patient may treat himself or herself at home.

Several investigators have found that in strains of rats in which the females were susceptible to the development of carcinoma of the breast, males could also be made to develop these cancers upon the administration of estrogenic hormone, but the dosage used was enormous in proportion to body weight of the specimens and therefore this phenomenon seems to be of little importance in treating human beings with theelin.

This estrogenic hormone is giving excellent results in the treatment of chronic cystic mastitis in the early stages of the condition as well as in several other diseases of the breasts.

Among the most gratifying uses of theelin is its employment in gonorrheal vulvo-vaginitis in children, a disease which usually succumbs readily to the administration of this estrogenic hormone in the form of vaginal suppositories containing 75 units of the hormone every night. The mode of action of theelin, in this connection, and it has been corroborated by several different experiments carried out independent of each other, is through the maturation of a squamous epithelium in the vagina. This particular type of epithelial tissue is peculiarly resistant to the invasion of the gonococcus. However, in this mode of treatment, Langdon Brown and others sound a note of warning, stating that they have encountered several cases in which children have had a precocious puberty, both physically and psychically, following the use of theelin.

Numerous other conditions are being benefited by the estrogenic hormone, among them being such conditions as hemophilia; galactorrhea; diabetes insipidus, when this latter condition does not respond to pituitrin; in inverted or absent nipples where childbirth is followed by mammary swelling, pain or abscess; and in the suppression of lactation.

While the majority of the conditions thus far discussed have dealt primarily with therapy by means of the sexual hormones or sex-stimulating hormones, we must not forget that progress is being made with the hormones of other glands also. One of the most recent advances with these non-sexual endocrine products is in the treatment of dementia praecox and other mental diseases or disorders with insulin. The therapeutic effect is obtained by producing hypoglycemic shock; but this treatment should be utilized only in an institution as it is very dangerous. Although the patient is given relief for an indefinite period, he or she will usually relapse to the former state of the disease. Nevertheless, this is the first of perhaps many forward strides in the treatment of this malady.

Insofar as the treatment of diabetes mellitus with insulin is concerned the only recent contribution to its therapy is protamine insulin. This form of the pancreatic islet hormone, due to its slower absorption and action, permits a patient to take only one dose a day.

While they have not as yet been adapted to therapeutic usage, we should mention two discoveries as being, probably, the next advancement which we shall employ in some way in the treatment of diabetes mellitus. These discoveries are the fact that an excess of adrenalin in the body will cause a glycosuria, and that there has been isolated from the anterior lobe of the pituitary gland a ketogenic and a diabetogenic factor.

Therefore, it would appear only logical that an abnormality of the pituitary gland, or of the adrenal glands, or of both would play a great part in the cause of diabetes, whereas, it has been previously thought that this malady was due to a dysfunction of the pancreas alone.

There would seem from this that there is some connection between diabetes mellitus and essential hypertension since the latter also arises, it is fairly evident, from some adrenal or pituitary malfunction. In fact there have been several men working on this subject who have suggested that in essential hypertension small doses of x-ray should be employed over the pituitary and adrenal glands.

Adrenalin, whose action as a broncho-dilator, cardiac stimulant, and so forth, is well known, has also been employed in a new field recently. Certain of our Italian colleagues have reported very favorable results from its use in chronic malarial splenomegaly. At times they have given up to as many as 30 injections of adrenalin daily in this condition in doses ranging progressively from 0.1 to 0.05 mg. intravenously.

The therapy of hypofunction of the thyroid gland has changed but little in recent years. Although the administration of thyroxine in solution with alkalies by mouth is quite effective, the dessicated whole gland is still the drug of choice for treating myxedema due to its availability, low cost and ease of administration. For the completely thyroidless individual the dose is usually 1½ to 3 grains of thyroid extract daily.

A great many authors are of the opinion that dessicated thyroid, in doses which just fail to cause tremor, nervousness, tachycardia or irritability, adds to the efficiency of the treatment of any one of the glandular deficiences, even where other hormones are employed simultaneously, except in Addison's disease and hypogonadism of the eunuchoid type.

Most cases of obesity were once thought to be due entirely to overeating or to heredity, but in late years it has been shown that in a great many obese patients the obesity is a symptom of some endocrine disturbances, usually a thyroid or pituitary deficiency.

In treating these cases the caloric intake should always be restricted, but the patient will usually respond better when the extract of the endocrine gland at fault is added to the therapy.

In parathyroid deficiencies the gland extracts are found to be very temporary in action, therefore we must fall back on viosterol and calcium in large doses for the treatment of any parathyroid tetany.

Just as with the thyroid deficiencies, where we have seen that the dessicated whole gland is used in preference to the pure hormone, so do we find this condition true in the treatment of diabetes insipidus. Although the pure hormone, pituitrin, gives some relief, we find that the best results are obtained by the insufflation of dessicated whole posterior pituitary gland as high as possible in each nasal cavity.

One of the more recent hormones to invade the therapeutic field is the adrenal cortex hormone, or cortin. Its use in Addison's disease is already established, where it is given in large doses and where the pure extract is used. But recently experiments show that this hormone is apparently linked in some way with the factors which are incident to the production of immunity against certain pyogenic infections.

Several clinicians have used it in tuberculosis, especially in those patients who are suffering from marked malaise and lack of vigor, some of whom were having toxemia and some who were not, and these investigators noted an improvement in vigor, a lessening of fatigue and an apparently beneficial effect on the disease process itself.

This cortical hormone has been used in the various toxemias of pregnancy, also, along with hydration therapy and the results have ranged from a complete relief to definite improvement in 85% of cases. The dosage depends on the severity of the individual case, and the non-endocrine measures already used are employed in conjunction with the hormonal therapy. This hormone, cortin, appears to be quite harmless, insofar as we know at present, an overdose not being possible. Its action in this condition is explained by its influence on the inorganic salt balance in the body. Adrenal cortex hormone has also been employed in treating asthenia along with psychotherapy.

In the main I have discussed endocrine conditions arising from hypofunction, due to the fact that they are much more frequent than the hyperfunctional conditions. In a way this is fortunate for we can at the present time do more to alleviate these conditions than we can in the hyperfunctional disorders of the endocrine glands.

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The Importance of Blood Sugar Studies

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ONE WILL readily recall that the body proper uses carbohydrates for its quickly available source of energy but for routine purposes both fat and carbohydrate are oxidized. Recent work, however, points to carbohydrate as the sole source of energy of the brain[1]. As this carbohydrate is supplied to the body and to the brain in the form of blood sugar or glucose or dextrose, a study of its quantity will give much information as to the true state of the carbohydrate metabolism. A study of this metabolism is frequently indicated as "there is many a slip twixt the cup and the lip," but there are far more twixt the food intake and its final digestion into the end product or dextrose. A study of the quantity of blood sugar or dextrose available for use by the body and the brain will give much information in many mental and physical disturbances.

Since the blood sugar plays a vital part in mental and physical efficiency, one should cease to think that it becomes abnormal only by diabetic conditions,—in which condition there is a high blood sugar concentration or hyperglycemia. There are far more individuals who are the victims of hypoglycemia or low blood sugar. One should therefore promptly discard the thought that a low blood sugar or hypoglycemia is produced only by an overdose of insulin as it is far more frequently caused by an over-active pancreas, in itself. As a matter of fact, it has been said that one-sixth of the population have a tendency to, if not actually do have, a low blood sugar. It is apparent that a condition that is so frequent should be carefully studied.

As would be supposed, when "the sole source of energy" of the brain is impaired, the results would be far reaching. The brain may be easily deprived of its source of energy, that is, its carbohydrate or blood sugar by an excess of insulin artificially given as occurs in insulin shock. One should take care to remember that an excess of insulin may also be produced by an individual spontaneously. In either instance, whether artificially or spontaneously produced, the results are the same and vary only with the quantity of insulin. In the artificially induced shock (insulin administered hypodermatically) Bernard Gluck[2] had "an uncommonly rich and concentrated clinical experience with the hypoglycemic state, with the great multiplicity of vegetative, neuromuscular and psychic phenomena . . . so that one gains an impression of the organism's capacity for a reversibility of its reactions, quite unknown in connection with ordinary, physiological or medical experience. Patients who, a few minutes before the introduction of the neutralizing carbohydrates, were in a state of most profound somatic and psychic disorganization—indeed, one might say, disintegration—began to change before one's eyes as soon as the introduced sugar began to be absorbed, and exhibited a gradual, progressive reintegration, often followed by a more or less complete amnesia for everything that transpired during the hypoglycemic state." A similar condition will also exist in an individual whose pancreas is sufficiently overactive to product a hypoglycemic state of sufficient severity.

Studies made in the hypoglycemic states show that an excess of insulin reduced the use of oxygen by the brain 65%. This necessarily indicates that there is a great reduction in the metabolization or utilization by the brain of its source of energy. There is a reduction from 13% to 2% in the amount of glucose taken up by the brain and this certainly should interfere with the energy of the brain and its work output.

There are individuals in every physician's practice who are in varying stages of insulin shock or hypoglycemia,—spontaneously induced simply by an overactivity of the individual's pancreas. This deprives the brain of its source of energy, in a varying degree. There are those whose brain never receives a normal source of energy. They are in a state of hypoglycemia at all times. Others will be found whose hypoglycemia varies both in degree and in duration to the point that some will be found who only occasionally become sufficiently hypoglycemic to produce symptoms.

A properly functioning carbohydrate metabolism normally has 100 milligrams of blood sugar available even though one is fasting. Shortly after the intake of food this is increased to 130-140 milligrams, but about the second hour a return to approximately 100 milligrams is made and the glucose continues to be issued from the carbohydrate storehouses (primarily the liver) in this quantity. One may then say that the body and the brain were designed to have 100 milligrams of blood sugar or glucose constantly available and that the brain or mental lamp was designed to give forth 100 units of mental brightness if 100 units of energy are available. One may easily imagine the detrimental effect on the brain and nervous system if only 50 units of energy or 50 milligrams of blood sugar were available, while fasting; about 80 milligrams one hour later and thereafter (until the next meal) around 50 to 55 milligrams. One would certainly not expect the brain, in this instance, to do 100 units of work.

Since hypoglycemia impairs the source of energy of the brain, its work will be impaired in a varying manner and degree and the symptoms will vary from the nervous patient who needs a rest; from vertigo to epileptiform convulsions; from drowsiness to narcolepsy; from mental backwardness to mental degeneration. In short, any symptom that a malfunctioning brain may produce may be found in hypoglycemia because, in this condition, the metabolism of the brain; the nutrition of the brain[3]; the energy of the brain is impaired and normal function is impossible. One should therefore be careful to investigate this condition in all mental and nervous disturbances.

The importance of blood sugar studies is not limited to diabetes or to mental and nervous diseases exclusively as hypoglycemia may play a part and give much information in the field of endocrinology. Briefly, with normal findings one concludes that there is a normal balance existing between the pancreas and its antagonists or the adrenals, the gonads, the pituitary and thyroid. If the blood sugar is sufficiently increased one would conclude that the pancreas was underactive and that the antagonists were inclined to an overactivity. Thus one will observe that hypertension and arteriosclerosis generally accompany diabetes as a result of an overactivity of the adrenals. Should the pancreas become overactive an excess of insulin will be produced which will be detrimental, not only to the carbohydrate metabolism, but will also cause the adrenals and/or the gonads and/or the pituitary and/or the thyroid to become underactive and perhaps produce additional disturbances such as hypotension, menstrual abnormalities, allergic manifestations and others.

An interesting relationship between hypoglycemia and migraine was observed by Gray and Burtness[4]. They found that in 38 patients of whom 22 were victims of true migraine, headache was present when the blood sugar fell to 90 milligrams or below and that the headache was relieved entirely or in great part by the administration of glucose-containing foods. They were able to reproduce the headache by the induction of hypoglycemia. Hunt relieved migrainous headache by the administration of glucose and adrenalin. Critcheley found hypoglycemia a short time after migraine began. Wilder, Rynearson and Moersch and Jordan refer to headache as a common finding in hyperinsulinism or excess insulin production.

Tedstrom and Wilson[5] made interesting observations in their glucose tolerance studies upon 38 women at the beginning of the menstrual period and again midway between in order to determine the relationship between blood sugar and menstrual pain. They found in every patient in whom the fasting blood sugar was below 80 milligrams the individual either had menstrual pain of varying severity or complained of marked nervousness, irritability, weakness, extreme hunger or excessive desire for sweets for two or three days before the onset of menses. All but one obtained symptomatic relief from measures that were designed to raise the blood sugar levels. Extra carbohydrate feedings relieved 80% while 8 had to be given glucose intravenously with immediate and very dramatic relief of the menstrual pain. These observers did not find any uniform variation in the fasting blood sugar at menstruation as compared with the mid-menstrual blood sugar although 80% of the series showed a lower blood sugar during menstruation and an increased tolerance for glucose at that time.

The writer[6] studied the menstrual function of 5 women with chronic hypoglycemia and all were found to have a very scanty flow of only one to three days' duration. He observed that the blood sugar concentration and mental function of these patients were lower during the pre-menstrual and menstrual period. He found that efforts to increase the menses alone were without value but that this function improved as the endocrine imbalance, between the overactive pancreas and the underactive gonads, became normal. Therapy directed at gonad function alone was not as effective as that directed toward the depression of the pancreatic activity and to the stimulation of the gonadal activity. Herein appears to be the cause of many endocrine failures—one strives only to build up the underactive endocrine and neglects to retard the overactivity of the antagonistic endocrine. If its antagonist is not overactive then,—and then only, will simple replacement therapy be effective.

Wilmer[7] in discussing the recent advances in the diagnosis and treatment of allergic diseases concludes: "We believe that there is some disturbance of carbohydrate metabolism in persons who have allergic manifestations. If it is not an altered carbohydrate metabolism alone, it may be the end result of a glandular dysfunction that accompanies or is the background of allergic diseases. In this connection it is of interest to note that in a group of 4,762 allergic patients in our records we have discovered only two who have had diabetes or diabetic symptoms. Both of these were "bacterial asthmatics" . . . In a group of 1,870 diabetic patients we have found only two who have been definitely proved allergic."

Logically, one should not expect a diabetic to be a victim of allergy since his underactive pancreas permits the adrenals to become overactive and the diabetic becomes very liberally supplied with adrenalin which, ordinarily, is the antidote for allergic manifestations. On the other hand, the allergic individual with his weak adrenals would permit the pancreas to become overactive and produce too much insulin and thus disturb the carbohydrate metabolism.

One should remember that carbohydrate metabolism plays a most vital part in both mental and physical well-being and the efficiency of this metabolism may be studied only by doing the very simple, very easy and inexpensive test[8] of determining the amount of sugar or glucose available for its various uses. In addition this test will reveal much practical information in metabolic, neuro-psychiatric, allergic, endocrine and other problems,—in fact, it often holds the only key to their solution.

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MESSAGE FROM DR. A. STREET

Regardless of how much the doctor values his independent and special medical societies, he must never forget that the importance of his local society surpasses that of all others. It is the foundation of organized medicine. Local society meetings offer frequent opportunity for friendly association and exchange of knowledge and experience. We are frequently reminded of facts forgotten, and occasionally gain valuable additions to our store of information, thus adding to our efficiency in curing disease and affording comfort to the sick.

The local, state, and national associations acting together through assemblies of representative delegates establish our policies, our standards of medical education, regulations of licensure and practice, promote research, promote numerous projects for the protection and preservation of public health including our health boards and departments and food and drug departments. These accomplishments are possible only through the efforts of organized medicine and as your president-elect I urge every society to leave nothing undone toward enrolling every eligible physician residing in its area.

DR. J. A. CRISLER, SR.

Dr. J. A. Crisler, Sr., died at his home in Memphis, November 18, following an illness of about three years. Dr. Crisler was the son of Col. Simeon and Ada Byron Smith Crisler, and the eldest of four sons, all of whom became physicians or surgeons. He was born at Raymond, Miss., Dec. 16, 1868. He received his B.S. degree from Iuka Normal Institute in 1888 and his medical degree from Memphis Hospital Medical College in 1890. He began the practice of medicine at Livingston, Miss., moving later to Flora, where his father was mayor for several years. He was married to Miss Josephine Stamps Hubbard, of Iuka, Miss., who survives him; also two children survive, Dr. J. A. Crisler, Jr., and Mrs. Edward J. McCormack.

Dr. Crisler really did as some one well said, "had health in his hand and humanity in his heart." For several decades he radiated a big part of the medical spirit of Memphis and the Mid-South. Dr. Crisler was gigantic in intellect, he loved the science and the art of medicine, and his heart was ever ablaze with sympathy for the sick and the troubled patient. But few men know how to enter into the pleasures and joys and sympathies of the people as he did. He knew his patients in their relation to life and treated the patient as well as the diseases attacking him. His interest was always genuine and sincere, and love and devotion was radiated back to him. The medical profession in the Mid-South and the people will miss him greatly, but in health and in spirit they are much richer because he lived and served.

We are delighted to have Dr. Austin Bell, of Hopkinsville, president of the Kentucky State Medical Association, as a subscriber and a reader of the Mississippi Doctor. He is a profound student and he radiates a rich medical spirit from a broad and an active medical experience.

Hygeia, the health magazine, is published by the American Medical Association. Each issue of this journal is brim full of priceless health information. It is a most readable journal, written in language well understood by the laity, but very valuable to the doctor as well. The strength of a nation is found in the health of its people, mental and physical. The information in Hygeia if read and appropriated by all of the people could not be estimated in value to our nation. Hygeia is the national health Bible for our people. The doctors should be the enthusiastic agents to spread this magazine of good tidings on health. The progressive doctor should not fear health information to the laity. It will bring him more work and patients who will be more appreciative. We trust that the wives of the doctors of Mississippi will make a special effort to increase the circulation of this national health magazine this month, while a special price is being offered. Every doctor and every doctor's wife could give one year's subscription as a Christmas gift. It would bring much joy to the donor and furnish a wonderful mental repast of health information throughout the year for the recipient. We feel sure that the Auxiliary of Mississippi will do some good work this month in increasing the circulation of Hygeia in our state.

Death has written finis to a brilliant and useful life—Joseph Augustus Crisler, Sr., is dead. He died at 8:20 Tuesday night, Nov. 18. While his death was not unexpected—he having been an invalid for some years—it brought sadness to many hearts and lives. Dr. Crisler had been recognized for many years as a great surgeon—one of the greatest in the South. He was not only skillful and dexterous with his hands, but he was possessed of a judgment that was rarely matched in his chosen field of labor. His intellect was towering and his knowledge wide and extensive. In addition, wisdom, which comes only as a gift from on high, had been bestowed upon him to a most generous degree. Besides all this, his was a tender and sympathetic heart—one that responded quickly and deeply to the needs and sufferings of his fellowmen. His disposition was friendly and jovial. He was the heart and center of any crowd of which he might be a member. His friends were countless and their grief, because of his going, is immeasurable. Many years ago, I saw him kneel at the humble grave of Sargent S. Prentiss and, in an unostentatious way, 'Prentiss and I are kindred spirits — sometime, somewhere, I expect to meet and know him." Although our lives were cast on somewhat different lines, I feel in the same way towards him. I feel that he was my friend—I know that I was his. I loved him in life and shall revere his memory "until we shall meet again." I attended his funeral and mingled my tears with those of his immediate family and most intimate friends.

* * * *

Since the last issue of this journal I have had a letter from my splendid and respected old friend, Dr. H. A. Gant. With characteristic modesty he demands a correction of me for something I may have said in a recent communication to this journal. It appears that I stated that his theories as to the spread of yellow fever were developed and made known by Drs. Carter, Reed, and their co-workers. He wants me to say that the data furnished them by him was used by them in arriving at their conclusions. I hope that this little yielding to his modesty will relieve him of any fear that he might be seeking too great ecognition and honor for his part in the program. Be this as it may, I insist that honor should be given to Dr. Gant for this great discovery as well as to others. There is honor enough to go around.

* * * *

While paying tribute to my friends—one dead, the other still living—I must not fail to call attention to the fact that the Deep South furnished a son who brought much honor to his Southland and his native state. L am referring to Dr. Quitman Newell, whose death occurred in St. Louis recently. Dr. Newell was a great surgeon and an able teacher of his art. He was in the very zenith of his strength and usefullness. Within a week he would have been installed as president of the Southern Medical Association. This association is the second in the nation with respect to membership. Perhaps no association ranks higher with respect to the type of its membership and the character of work that it is doing. Dr. Newell was regarded as one of the very foremost among its members with respect to his personal work and his fitness for leadership. He was born and reared in Whistler, Alabama, and although he had done his life work in St. Louis, his remains were carried back to his native heath for burial.

* * * *

Why waste expensive ammunition shooting tame ducks? Are there not enough wild ducks to be shot? This writer is convinced that very much unnecessary surgery is being done while much that needs to be done is left undone. The last time that I saw and heard the late W. J. Mayo, he made the statement that sixty per cent of the appendectomies that are being done are needlessly done. He said there are hundreds of conditions that are attended with abdominal pain, while hundreds of would-be surgeons diagnosed all, or most, of these as appendicitis. I recently heard a capable graduate nurse say that the two cardinal evidences of appendicitis are a belly pain and a checking account. What a travesty! Of course every case of acute appendicitis should be considered as a surgical potentiality. But why, in heaven's name, so many mistaken diagnoses? What is true of appendectomies is doubly true with regard to surgery done for the relief of pelvic complaints among women. Any one with a steady hand and mediocre skill can do acceptable work in the operating room. But good surgeons are scarce and good surgery is rare. A man clothed in an operating gown and rubber gloves, with a knife in his hand, who has poor judgment and is devoid of surgical conscience, is a greater menace to public safety than was Jesse James in the height of his fame and glory. Is there really such a condition as "chronic appendicitis?" In the current copy of The Year Book, Alvarez, reporting 255 cases operated under such a diagnosis, states that only TWO—eight-tenths of one per cent—were cured. In all probability the majority of patients complaining of indefinite abdominal and pelvic symptoms are psychopathic individuals. Of course, these are not benefited by surgery and one laparatomy leads to others. It might be well, for such individuals, if there should be inscribed over our modern operating doors, "she who enters here leaves hope behind." But please do not get me wrong: surgery is both a science and an art. But all too few are the artists and scientists who emerge from our medical schools. And unfortunately all too many so emerging are adopting the motto that Napoleon wrote his mother that he had adopted— namely: "I intend to carve my way through the world to fame and fortune."

—G. S. B.

News and Comments

FRACTURE SURGERY MEETING

Dr. Charles H. Scudder of Boston, Mass., will be in Meridian for a meeting with surgeons of the state who are interested in fracture surgery. This meeting is to be held at the Lamar Hotel, Meridian, January 7 at 7:00 P.M.

Dr. Scudder's program will be: (1) The Fracture Committee of Mississippi. (2) The Nucleus Pulposus. Backache. Lantern Slides.

The Regional Fracture Committee has never been active and Dr. Scudder is extremely anxious that Mississippians show more interest.

Since it is difficult for such a large committee to formulate plans with expediency, Dr. John C. Culley, of Oxford, Dr. J. G. Gardner, of Columbia, and Dr. V. B. Philpot, of Houston, will serve as an executive committee, which will meet during the month of December to formulate plans for (1) improving the fracture services of the hospitals, (2) to disseminate knowledge or methods of treatment of fractures to the physicians in the state, (3) to provide more adequately for first aid and transportation of the injured.

Dr. Leslie V. Rush, of Meridian, is chairman and Dr. T. E. Ross, of Hattiesburg, is secretary.

Dr. J. Harley Harris announces the removal of his offices to the Methodist Hospital, Doctors Building, Suite 211, Memphis, Tenn.

Dr. Robert E. Shands has purchased the Mayes Hospital from Dr. H. N. Mayes, who has retired from active practice. Dr. Shands, a native of Sherman, has practiced in New Albany four years. He is a graduate of the University of Mississippi and Vanderbilt University, and has done extensive graduate work in the East. The hospital is a modern building with thirty rooms, a charity ward, two operating rooms and doctors' offices. Dr. Shands will renovate the building and equipment soon after the first of the year.

The Vicksburg Clinic announces the association of C. Frank Chunn, M.D., M.S., formerly of Detroit, Michigan. His practice is limited to orthopedics and surgery.

The Lawrence County Medical Society met at Walnut Ridge, Ark., Nov. 15, with Dr. J. C. Land presiding. Dr. C. C. Ball, of Ravenden, read a paper at this meeting.

Dr. Richard E. Ching announces the opening of offices in the Methodist Hospital Doctors Building, Memphis, Tennessee. He has complete x-ray and laboratory diagnostic equipment, also portable electrocardiograph.

Dr. E. L. Fuller has been elected city physician of Greenville to succeed Dr. B. H. Hand until Jan. 1, 1942. Dr. Hand will be with the National Guards at Camp Blanding, Fla., for training.

Dr. J. W. Boggess, age 69, died suddenly at his home in Huntsville, Ala., on Dec. 1. Dr. Boggess was a member of the Jackson County Medical Society. He is survived by his wife, two daughters and three sons.

Dr. Estelle Magiera, widely known staff psychiatrist at Mississippi State Hospital, has resigned from that institution to accept a position with the Neuro-Psychiatric Institute of Hartford Retreat at Hartford, Conn. Dr. Magiera will be the only feminine member of a staff of 18 doctors at the Hartford Hospital.

Dr. Frank A. Donaldson, assistant superintendent of the State Hospital at Whitfield since 1936, has been appointed superintendent of the East Louisiana Hospital at Jackson, La. Dr. Donaldson, 35, is a native of Pontotoc County, and graduated at the University of Tennessee Medical School. He also attended Mississippi State and Ole Miss. He takes his new job Dec. 1.

Dr. T. F. Conn, of Monticello, Miss., died in Jackson, at the hospital, November 19, 1940. Dr. Cann was born March 31, 1880, at Saulsbury. He was educated at Monticello High School and graduated from Tulane University in 1906. He had practiced at Monticello since 1906, having served as county health officer for twenty-two years. He was a member of the Mississippi State Medical Association, Tri-County Medical Society, Masonic Lodge, Woodmen of the World, Knights of Pythias and a member of the Presbyterian Church. He is survived by his wife and one daughter.

Dr. Walter C. Friday, 49, died Nov. 15, at his home in Starkville, Miss. Dr. Friday was a native of Oktibbeha County, attending high school in Maben and finishing his medical education in Memphis. He served during the World War as a first lieutenant in the Medical Corps and in 1924 entered Government service in the Panama Canal Zone as assistant physician in the Balboa Dispensary. He retired Jan. 1, 1940, because of ill health and returned to Starkville to live. He is survived by his wife, two sons and one daughter.

Dr. Thomas Fleet Conn, 68, died at the Baptist Hospital in Jackson, Nov. 19, following an illness of five weeks. He had been practicing in Monticello 33 years. Dr. Conn was a graduate of Tulane University. He served as County Health Officer of Lawrence County, was physician for the Gulf, Mobile and Ohio Railroad Company, an active member of the Tri-County Medical Society. He was a colonel on the staff of Governor Johnson. Surviving are his wife and one daughter, two brothers and two sisters.

The Clarksdale and Six Counties Medical Society met at Clarksdale on Nov. 13. Dr. J. A. Slack, of Friars Point, was elected president, succeeding Dr. L. B. Austin, of Rosedale. Dr. Guy R. Post was re-elected secretary and treasurer. Vice-presidents from the various counties were elected as follows: Bolivar, Dr. H. L. Cockerham, Gunnison; Coahoma, Dr. J. L. Levy, Clarksdale; Quitman, Dr. J. P. Walker, Lambert; Tallahatchie, Dr. J. C. Backstrom, Tutwiler; Tunica, Dr. M. G. Jernsberg, Hollywood. Dr. W. S. Slaughter, of Jonestown, was appointed as a member of the Board of Censors and Dr. T. M. Dye was appointed on the legal defense. Dr. Henry Boswell, of the State Sanatorium, and his staff conducted the program.

CHANGES IN COUNCIL
Southern Medical Association

Dr. Walter C. Jones, Miami, has been appointed a member of the Council of the Southern Medical Association to succeed Dr. Luther W. Holloway, of Jacksonville; Dr. J. Warren White, Greenville, S. C., to succeed Dr. Kenneth M. Lynch, Charleston, S. C.; Dr. Curtice Rosser, Dallas, to succeed Dr. Guy F. Witt, of Dallas; Dr. Thomas W. Murrell, Richmond, to succeed Dr. Vincent W. Archer, Charlottesville. Drs. Holloway, Lynch, Witt, and Archer having served the constitutional limit, were not eligible for re-appointment.

NOTICE

Reprints are gratefully received at the Army Medical Library. They are placed in a special collection catalogued by author and form a bibliography of the work of any given writer and a valuable supplementary source of material when the volume of original publication is temporarily unavailable at the bindery or on loan.

Harold W. Jones, Colonel,
Medical Corps, U. S. Army.

INCOMING OFFICERS OF THE SOUTHERN MEDICAL ASSOCIATION

President: Dr. Paul H. Ringer, Asheville, North Carolina.

President-elect: Dr. M. Pinson Neal, Columbia, Missouri.

First Vice-President: Dr. James R. Bloss, Huntington, West Virginia.

Secretary-Manager (Secretary-Treasurer and General Manager): Mr. C. P. Loranz, Birmingham, Alabama.

Associate Editor of Journal: Mrs. M. Y. Dabney, Birmingham, Alabama.

Executive Committee: Dr. Alphonse McMahon, St. Louis, Missouri; Dr. E. L. Henderson, Louisville, Kentucky; Dr. Lucien A. LeDoux, New Orleans, Louisiana.

The Association will meet next November in St. Louis, Missouri.

DR. SPECK WILL HEAD WIHTFIELD HOSPITAL

Dr. C. M. Speck, of New Albany, in November was appointed assistant superintendent of the State Hospital at Whitfield to succeed Dr. F. A. Donaldson, resigned.

Dr. Speck will take office immediately, according to Governor Johnson, who made the appointment. Dr. Speck is a colonel on the Governor's staff and one of the outstanding physicians in North Mississippi. He was offered the post as superintendent of the Jackson Charity Hospital early this year, but declined the appointment.

Dr. Donaldson resigned to accept the superintendency of the East Louisiana Hospital at Jackson.

Dr. Speck is president-elect of the Mid-South Medical Assembly, and a former vice-president of the State Medical Society. He also is a member of the American College of Surgeons, and owner of the New Albany Hospital. He is a graduate of Vanderbilt.

During the World War, he was a captain in the medical corps. He is a member of the Kiwanis Club, is a Mason and Shriner.

Dr. Speck has been practicing for 28 years. He is married and has one daughter. He is a native of Union County.

NEWS NOTES FROM THE OLE MISS MEDICAL SCHOOL

Dr. Melvin H. Knisely, of the Department of Anatomy of the University of Chicago, is to give a moving picture demonstration of recent findings on blood changes during the development and treatment of malaria. This work, done in collaboration with the staff at the University of Tennessee, was recently reported at the Southern Medical Association. The demonstration before the student body and visitors will be December 5 at 8:00 P.M. in the Student Union Building.

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Dr. E. M. K. Geiling, Professor of Pharmacology at the University of Chicago, talked before the student body last month on the anatomy and functions of the pituitary gland. Dr. Geiling is president of the American Society for Pharmacology and Experimental Therapeutics.

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Dr. S. C. Lind, from the University of Minnesota, addressed the general student body last month on "The Uses and Dangers of Radium." Dr. Lind is president of the American Chemical Society.

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Representatives of the General Education Board recently inspected the facilities of the Rowland Medical Library with the prospect of making a substantial contribution to the financial support of the general University library, of which the Rowland Medical Library is a subsidiary organization. Dr. J. B. Looper, chairman of the Medical Library Committee reports that between $1500 and $2000 have been raised in behalf of the Medical Library and it is anticipated that this will be matched.

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A research grant of $250 has been made to Dr. D. S. Pankratz, of the Department of Anatomy, in order to continue his studies on the development of reflex patterns in the foetus. The grant, made by the American Philosophical Society, is to be used in the operation of special photographic equipment recently installed in the Department of Anatomy. It is anticipated that the photographic recording of reflex movements in foetal animals can be correlated with the development of certain nerve tracts and thus serve better to identify the nerve pathways for some of the common reflex responses.

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The regular student experiments and demonstrations as given in the Department of Pharmacology have been published this fall by J. B. Lippincott Company, Philadelphia, under the title "Laboratory Text in Pharmacology." The book contains discussions of the significance of the experiments and also references to recent pharmacological and clinical literature.

* * * *

Dr. B. S. Guyton and Dr. V. B. Harrison attended the annual meeting of the Association of American Medical Colleges at Ann Arbor, Michigan. Moving pictures of the Ole Miss Medical School buildings were included among others shown at the convention under the title "Medical Schools on Parade."

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A recently furnished lounge room adjoining the lobby of the Medical School Building is now being used by the medical students and for special meetings of the Medical Club and the Phi Chi Medical Fraternity.

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The Department of Pathology and Bacteriology has expanded its museum of gross pathology specimens and has established an additional departmental laboratory for routine and research purposes.

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Last month the Medical School Faculty held its regular meeting at the home of Dr. Moore and was entertained with a "fish fry" with Drs. Moore and Looper as hosts. The guest speaker for the evening was Chancellor Butts who briefly reviewed the program under way for improving and expanding the facilities of the University libraries.

"FIGHT INFANTILE PARALYSIS"

Mississippi will launch its 1941 "Fight Infantile Paralysis" campaign under the expert leadership of Dr. Felix Underwood, one of the state's foremost medical authorities and a veteran of three campaigns against the crippling disease. Headquarters will be at Jackson.

In accepting the State Chairmanship, Dr. Underwood assured Keith Morgan, National Chairman of the Committee for the Celebration of the President's Birthday that Mississippi is preparing to surpass even its 1940 record in combatting infantile paralysis.

Gratified over the prospect of such an enthusiastic drive for funds in Mississippi in January, Mr. Morgan declared:

"We at headquarters here deeply appreciate the generous support which the people of Mississippi have given us in the past and we are confident that they again will rally behind Dr. Underwood. Our slogan, 'Help the Youngster Around Your Own Corner' will be a happy one, for Mississippians have always taken care of their own.

"What we need right now is an army of volunteer workers who will come to the support of Dr. Underwood and who will organize the state as it has never been organized before.

"When the raising of funds begins in January, we know that Mississippi, united in this fight, will do its full part."

During the first 46 weeks of 1940, Mississippi reported 44 cases of infantile paralysis, an increase of 10 cases over the corresponding period last year. Although the state's rate at present is comparatively low, Mississippians are keenly aware of the disease's unpredictable swings. In 1937, Mississippi had the highest rate per hundred thousand population in the United States.

The year now drawing to a close will be remembered throughout other sections of America as one of the worst infantile paralysis periods in history. During the first 46 weeks, 9,197 cases were reported in the nation by the United States Public Health Service. This is an increase of 2,404 cases over the same period of 1939. The 1940 figure is the fifth highest on record.

Dr. Underwood, whose home is in Jackson, Miss., has been Executive Officer of the Mississippi State Board of Health since 1924. He was graduated from the Medical School of the University of Tennessee in 1908 and began the practice of medicine a year later. Dr. Underwood's interest in public health asserted itself early in his career. In 1912 he served as chairman of tne Monroe County Chapter of the American Red Cross. He has taken an active role in hygiene and in the long campaign against tuberculosis.

Among Dr. Underwood's other interests are malaria study, mosquito control and public sanitation. He is President of the Mississippi Public Health Association and an officer in many other organizations and committees.

BOOK REVIEWS

MEDICOLOGICAL PHASES OF OCCU$ATIONAL DISEASES, by Dr. C. O. Sappington, is a most interesting and helpful book to every doctor who has this type of work, and nearly every one does. Dr. Sappington is a consultant on occupational disease and industrial hygiene and is well qualified to hand down opinions on the subject. The book is published by the Industrial Health Book Company, Chicago. Price, $3.25. The book is a brief treatise on the relationship between employment and disease, or the relation of environment and disease. Causes of occupational diseases are summarized, the standards of permissible exposures, industrial dusts, gases and vapors, volatile solvents, skin irritants. Laboratory methods are explained. Insurance for industrial workers and how to estimate risks come in also for interesting discussion. Helpful information on diagnosis and treatment of these diseases and their prevention is given with a discussion of special causes and poisons. Legislative trends in industrial diseases are brought up to date with suggestions for the future. Silicosis and tuberculosis come in for liberal space in all of ther relations.

This book will give any doctor a good start in a field of practice which will soon demand the interest of every practitioner.

DOCTORS AT WORK is the title of the sixth annual series of dramatized radio programs to be presented by the American Medical Association and the National Broadcasting Co.

The series will open Wednesday, November 13, 1940, and run for thirty consecutive weeks, closing with a broadcast from the A. M. A. meeting at Cleveland, on June 3, 1941. The program is scheduled for 10:30 P.M. Eastern Standard Time (9:30 Central; 8:30 Mountain; 7:30 Pacific time) over the Blue network, other NBC stations and Canadian stations.

The programs will dramatize what modern medicine offers the individual in the way of opportunities for better health and the more successful treatment of disease. Incidental to this main theme, the programs will explain the characteristics of the different fields of modern medicine and its specialties.

DOCTORS AT WORK will be broadcast from scripts by Wm. J. Murphy, NBC script writer and author of many previous AMA-NBC "shows" and other popular radio features. It will be produced under the direction of J. Clinton Stanley, director of MEDICINE IN 9HE NEWS, last season's successful AMA-NBC health program. Supervision will be by the AMA Bureau of Health Education, directed by W. W. Bauer, M.D.

Descriptive posters for local distribution may be had gratis from the Bureau of Health Education, American Medical Association, 535 N. Dearborn St., Chicago. Program titles will be announced weekly in the JOURNAL OF THE A. M. A. and monthly in HYGEIA, the Health Magazine.

SYNOPSIS OF OBSTETRICS, by Jennings C. Litzenberg, M.D., F.A.C.S. Professor Emeritus of Obstetrics and Gynecology, University of Minnesota Medical Scholo, Minneapolis. Contains 157 Illustrations Including 5 in color. Published by the C. V. Mosby Company, 1940. Price $5.00.

This small 376 page synopsis of obstetrics has of necessity omitted all controversial and much of the theoretical discussions often encountered in larger works on obstetrics. However, the author has made an effort to evaluate the material and give due emphasis to the really important considerations. The aim has been to minimize the more or less irrelevant, to emphasize the important, and at the same time to maintain that balance between minimum and maximum stress so necessary to develop sound judgment.

Illustrations have been obtained from various textbooks and medical periodicals, because of their superior value in interpreting or clarifying certain points. This book presents a readily available store of practical obstetrics to the student or general practitioner.

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Dr. R. B. Cattell—Surgery	Boston, Mass.

Programs will be mailed February 1. Write for one if you do not receive yours.

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Interpreting Medical Literature

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Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

CANCER OF THE SKIN IN RELATION TO MULTIPLE MALIGNANT GROWTHS, Shields Warren, M.D., and Olive Gates, M.D., J.A.M.A., 11-16-'40, Vol. 115, No. 20. p. 1705; Peller and Stephenson, Am. J. Hyg., (Section A), 29:34 (Jan.) 1939.

Drs. Warren and Gates, of Boston, call attention to the fact that Peller and Stephenson apparently proved some time ago that cancer of the skin and lips seemed to produce some form of resistance to cancer elsewhere in the body.

According to the statistics given in Drs. Warren and Gates' paper the presence of cancer of the skin or mucous membranes did not exert any immuniological effect on the individual who had it. It also seems from what they found that a person with a skin cancer or with a mucous membrane cancer is more likely to have a cancer of his or her internal organs than a person who does not have an external cancer. This would tend to prove that the production of curable cancer of the skin by irritations which are not carcinogenic to internal organs is no protection to one against one's having internal cancer.

ARSENIC AS THE CAUSE OF CANCER OF THE MUCOUS MEMBRANES, Report of a Case, W. H. Goeckerman, M.D., and L. F. X. Willhelm, M.D., Arch. Dermat. & Syph., Vol. 42, No. 4, p. 641, October, 1940.

Arsenic in its inorganic form is now fully accepted as a cancerigenic agent. As to whether this is also true of the element, is still a matter of doubt.

Drs. Goeckerman and Wilhelm, of Los Angeles, report a case of keratotic lesions of the palms and soles, large erythematous, scaling plaques, some indurated and some ulcerated on trunk, thighs, and legs in a retired physician who was seventy years of age, and who had been taking Fowler's solution (solution of potassium arsenite) since he was thirty-four. He stopped the Fowler's solution in 1914 and did not develop any lesions until 1918, at which time he developed the aforementioned lesions. In July, 1935, he had right kidney removed because of a mass in the right ureter, and in December, 1935, he developed some lesions of the neck of the bladder.

The lesions from the neck of the bladder were malignant. The vesical cancer showed numerous crystals of arsenic. The papillomata and skin cancers showed only a few crystals of arsenic.

The facts presented do not prove that arsenic produced the keratomata, the papillomata, or the cancers. The presentation of this paper produced considerable discussion as to what part arsenic played in the production of cancer, whether the arsenic had been injected intentionally, or had been placed on the skin by accident. It was also brought out by the writer that the arsenic eaters of Syria may be largely a myth. The discussion is too long to go into in detail, but the main point of interest is that the administration of arsenic carries with it certain hazards that may be just as great as acute arsenic poisoning, and that the damage may show up long after the administration of arsenic has been stopped. Attention is also called to the fact we are coming in contact with more arsenic accidentally now than we did formerly.

—J. G. T.

EYE

CORNEAL TRANSPLANTATIONS, J. Wesley McKinney, M.D., Memphis, Tenn., (American Journal of Ophthalmology, April, 1940).

The substitution of transparent tissue for the opacified cornea has been attempted for more than a century, yet not until recent years have these efforts been rewarded with consistent success. The early attempts to substitute glass for the opaque cornea, though interesting, were fatal for the eye. Total keratoplasties, in which the entire cornea was transplanted, led to a similar outcome: the transplants became opaque, the eyes developed glaucoma, and, in the majority, phthisis bulbi ensued. Lamellar keratoplasties, wherein only a part of the thickness of the cornea was transplanted, were then undertaken. These were considered safer than the penetrating type in that the eye was not opened. A scar always formed, however, between the graft and the underlying cornea.

Partial penetrating keratoplasty, or removal of a portion of the full thickness of the cornea and its substitution by a similar portion of clear cornea, is now accepted as the procedure of choice. The technique of this operation has been developed from animal experiments and from observations on the human subject.

The sixteen cases of the author are described in detail and it is stimulating to note the infinite expenditure of energy and resourcefulness that was necessitated and rendered in the solution of the many varied problems encountered. Trauma caused the largest portion of the corneal defects indicating this procedure; transplantation was attempted in a few cases of interstitial keratitis which had received complete syphilitic treatment, with the development of considerable difficulties; an attempt was made to utilize this method for an old trachomatous eye. That these cases were not all highly successful is no reflection on the author's work but their very existence is a tribute to his industry.

First among the preoperative considerations of various factors which indicate the probable visual outcome is that the graft must be placed in contiguity with a portion of relatively clear cornea. The grafted cornea apparently cannot derive sufficient nutritions from scar tissue to maintain its integrity as a transparent tissue. Superficial blood vessels, which might invade the graft and separate the graft from the cornea of the host, were destroyed previously to the time of surgery by a diathermy current. Anterior synechiae and aphakic eyes indicate a poor prognosis. Donors for the keratoplasties were limited to eyes enucleated for occular neoplasms.

The technique of Castroviejo using a twin knife and removing a square segment completely through the cornea was followed exclusively. The immediate postoperative course is marked by edema of the graft. Clinically, the edema, if continuing beyond the first few days, is an expression of the nutrition of the graft, which depends upon two factors; namely, the apposition of the edges of the cornea of the host and graft, and the condition of the cornea of the host. The cleft between the graft and cornea of the host is filled with fibrin and within a few days epithelium and endothelium bridge the cleft. The graft will clear if the cornea of the host contains adequate corneal elements. If the condition of the cornea of the host is poor, the nutrition of the graft will be poor, the edema will persist, and infiltration and vascularization of the stroma of the graft will be observed at the end of the second week. In some cases, the edema seems to have cleared almost entirely and the graft to be progressing nicely when a faint clouding begins, accompanied by a slowly advancing, fine, interstitial vascularization. This process may soon be arrested or may continue from one side of the graft to the other. Apparently, there is a delicate balance between adequate and inadequate nutrition. Glaucoma was a complication in six cases, but in only two could the effects of the glaucoma on the graft be distinguished from the effects of poor nutrition.

The author examines his results critically, and finds that three of his cases have a normally clear transparent corneal graft; four are slightly less transparent than normal cornea; three have a nebulous graft. Only one graft was lost, one densely scarred and three opaque or original leucoma, in one or more transparent than original leucoma.

The photographs which accompany this article are excellent. This reviewer had the opportunity of examining the original color transparencies at the time of the last Southern Medical Convention, and it is regrettable that they were not reproduced in the journal in color. Nevertheless, the black and white prints serve very well to show the excellence of the work done.

COMMENT: Dr. McKinney, associate of Dr. E. C. Ellett and Dr. Ralph Rychener, has by this paper indicated that we may expect him to become one of the leading ophthalmologists of the nation. The series of cases is not so large, but the procedure of corneal transplant is a formidable one, and not to be taken lightly. But the thorough scientific spirit, the meticulous care which he necessarily must have exerted, and his ability as an accurate medical author, bid fair to place him into unusual prominence.

—A. C.

Some Points of Eye Surgery, E. C. Ellett, M.D., Memphis, Tenn. (Abstract from paper).

Dr. E. C. Ellett, Memphis, Tenn., discussed enucleation of the eye with special reference to the cosmetic results. The ordinary enucleation usually leaves a considerable deformity in the shape of a sunken, motionless and lifeless looking artificial eye. Various efforts to remedy this seem to indicate that the most satisfactory results follow the implantation of a non-absorbable substance in the capsule of Tenon. Balls of glass, gold, paraffin, bone and cartilage have been suggested. Glass is cheap, easily obtained and satisfactory. Hollow glass balls 16 or 18 mm. in diameter are preferred by the author. Such a ball that had remained in the orbit for seven years was shown. The surface had lost its lustre and was marked by fine interlacing lines, but the ball had not deteriorated.

Lantern slides illustrating the steps of the technique advised were shown. A colored moving picture of the operation, and colored moving pictures of patients, taken years after the operation, further illustrated the technique and the satisfactory cosmetic result with a fair degree of motion of the prosthesis.

PATHOLOGY

Influence of Cobalt on Iron Transportation and Storage: A Chemical and Histologic Study, K. Kato, and V. Job, Am. J. Clin. Path., 10:751-766 (Oct.) 1940.

Barkan has demonstrated iron in red cells thought to be separate from hemoglobin and easily split off. It has also been found that blood iron determinations did not always check with the hemoglobin content. Usually it was found that the blood iron was higher than that anticipated from the hemoglobin determination.

For the study of iron transportation in experimental animals, polycythemia was produced by simultaneous administration of ferric ammonium citrate and cobaltous sulfate. For all animals (dogs and rabbits) the daily dose was cobaltous sulfate 0.1 gram and ferric ammonium citrate 1 gram.

In all animals polycythemia was successfully produced. Red counts were raised from 5-7 million in rabbits and from 6-8 million in dogs.

As a rule the elevation in cells and iron correspond with the degree and extent of polycythemia. Administration of cobalt alone gave rise to a pronounced reticulocytosis. It was found by histologic studies that metabolism and transportation of exogenous iron was chiefly cared for by the liver, spleen, and bone marrow.

Chemical studies on all animals revealed that the increase in the total iron of the blood became apparent within a short period after institution of the cobalt administration. The increase in blood iron was from 24 to 58 per cent of blood iron above control values.

Serum iron changes were only slight. Serum iron can be increased dramatically for a short time after massive doses in acute experiments.

It is evident that estimations of hemoglobin cannot be made accurately from determinations of the blood iron.

Histological examinations of the bone marrow at the height of the development of polycythemia revealed a distinct hyperplasia of all marrow elements, but particularly of the erythrogenic cells.

The liver and spleen always store iron. The bone marrow only stores iron when it is given in excess. When cobalt is given with iron the storage in the spleen becomes practically negative, suggesting nearly complete utilization of iron.

The effect of cobalt on hemopoiesis may be regarded as an expression or a phrase of accelerated biological oxidation process, brought about by the changes in cell respiration. Powerful reducing agents such as cevitamic acid prevent the development of polycythemia in cobalt treated animals. The catalytic action of cobalt behaves like a peroxidase.

Comment: The use of cobalt in anemias is clearly suggested, and this work can well be kept in mind.

Intrathoracic Pheochromocytoma, B. Philips, Arch. Path., 30:916-920 (Oct.) 1940.

Eleven cases of this tumor have been reported independent of the adrenal gland. In nine of these the tumor occurred in the organ of Zuckerkandl on the ventral aspect of the aorta, in one near the origin of the superior mesenteric artery, and in another in the thoracic cavity at the level of the sixth intercostal space.

Case Report: White male, 39, for 10 years cardiac palpitation and throbbing in head, dyspnea polyuria, nocturia, hypertension. Six years ago left hemiplegia with residual. First at Montefiore Hospital, Oct. 1933. B. Pr. 200/120, x-ray chest oval mass in left apex. Continued a hypertension case until 5 years later Horner's syndrome noted on left. June, 1939, coronary occlusion followed by death in congestive failure. At necropsy the tumor proved to be the size of a plum and easily shelled out.

The tumor probably arose from the paraganglion associated with the first left thoracic ganglion. The Horner's syndrome suggests the "superior pulmonary sulcus" syndrome of Pancoast.

The frequent incidence of vascular disease in patients with pheochromocytoma has been previously noted. Pheochromocytoma may be associated with the syndrome of intermittent hypertension. Cure of the intermittent hypertension by removal of the tumor was first accomplished by C. H. Mayo in 1927 and has since been accomplished in about 15 cases. The authors infer that the tumor was responsible for the hypertension in this case.

COMMENT: The tumor did not give the syndrome of intermittent hypertension usually described in cases with pheochromocytoma. In fact, most cases with intermittent hypertension have the tumor in the adrenal gland.

—J. C. H.

PEDIATRICS

THE CAUSES AND SIGNIFICANCE OF ASPHYXIA IN THE NEWBORN. (Journal of the Iowa State Medical Society, 30:425, September, 1940).

1. The most important single factor in the etiology of neonatal asphyxia is prematurity. 2. The next most important factor is the trauma of labor, whether due to the normal forces of normal labor or accentuated by dystocia and operative delivery. 3. Sedatives in any amount definitely increase the incidence of asphyxia in the baby in direct proportion to the amounts given. 4. General anesthesia in any amount definitely increases the incidence of asphyxia in the baby in direct proportion to the duration of the anesthesia.

COMMENT: The above article on "The Causes and Significance of Asphyxia in the Newborn" is one of considerable interest to obstetricians and pediatricians alike. There is no doubt that anesthesias and sedatives of all kinds have a very decided effect in increasing the incidence as well as cause in asphyxia.

STATUS ASTHMATICUS, McKinley London, (Ohio State Medical Journal, 36, 945, September, 1940.)

In closing, I wish to epitomize a plan of treatment for status asthmaticus which will include a chronological employment of drugs and procedures most apt to control the extreme dyspnea in the shortest possible time. By the phrase "control of dyspnea" is meant either absolute control or rendering the patient sensitive to the subcutaneous administration of epinephrin. It is readily understood that no absolute program is possible, and that attendant circumstances and the condition of the patient will still necessitate considerable individualization. The program may be abandoned at the point where the patient responds to epinephrin by subcutaneous administration. With this in mind, given a patient in status asthmaticus, the following program might be employed: 1. Hospitalization in a room as allergic-free as possible; 2. General therapy (a) urge fluids with emphasis on glucose solution intravenously or subcutaneously, (b) liquid to light diet, (c) inert emulsion to aid evacuation, (d) saturated solution of potassium iodide 15 to 20 minims t. i. d.; 3. Aminophylin grains 3¾ to 7½ intravenously p. r. n.; 4. Helium and oxygen mixture by inhalation; 5. Narcosis (a) ether and oil per rectum, (b) avertin per rectum, (c) cyclopropane by inhalation; 6. Epinephrin (1 to 1000) 2-4 minims in 1 cc. saline intravenously; 7. Morphine sulphate grains one-eighth or less not exceeding q 4h; 8. Atropine, intravenous sodium amytal and morphine one-fourth grain or greater are contraindicated.

COMMENT: The above article on "Status Asthmaticus" is of great interest. The article is timely and full of good suggestions for the treatment of such an alarming condition.

—H. F. G.

PUBLIC HEALTH

HANDWRITING ON CERTIFICATES, Leonard V. Phelps (Director of Bureau of Vital Statistics, Ala., State Dept. Public Health), Jour. of the Med. Ass'n. of Ala., 10: 183-184, November, 1940.

This article is most timely in view of the tremendous demands created by the National Defense program together with special local and federal legislation for information from vital statistics records. The importance of the physician's part in filling in the original certificates in order that they may be easily read is being emphasized as never before. Writing the pertinent information carefully and legibly may save the vital statistics searcher many a headache and much loss of valuable time when future requests are made.

A half-dozen typical examples of certificates are reproduced with the article, illustrating the difficulties which can be caused by writing too hurriedly or carelessly.

"It has been observed on numerous occasions that the handwriting of the physician on these certificates is sometimes impossible to read," states Mr. Phelps. "These certificates are legal records and for that reason alone. care should be taken by the writer to make them legible. They are used for the settlement of insurance claims, pensions, veterans' compensation, and legal and governmental purposes, as well as for welfare and personal uses. They are used, further, in formulating the public health program of the state. A record which cannot be read is of little use." Physicians whose duty it is to fill out certificates of birth, death and stillbirth are urged to take a little more time and care in their handwriting in order that the vital information they provide may be read and interpreted without difficulty.

—L. W.

SURGERY

Malignancy of the Right Colon: Its Diagnosis and Treatment, by Charles W. Mayo, M.D., Rochester, Minnesota, and delivered before the meeting of the Southern Society of Clinical Surgeons at Rochester, March 27-29, 1940.

Informally, before the members of the Southern Society of Clinical Surgeons held at Rochester, Minn., March 27-29, 1940, Dr. Charles W. Mayo discussed the subject of "Malignancy of the Right Colon, Its Diagnosis and Treatment, with Motion Picture Demonstration of Surgical Technic." A total of 885 patients having carcinoma of the right colon were observed in the Mayo Clinic in the years 1907 to 1938 inclusive These individuals were operated upon by 19 different surgeons. In 40 per cent of the instances, the lesion was in the cecum and in 60 per cent in the ascending colon or hepatic flexure. In 33 per cent of the cases a palliative procedure only was employed. In 67 per cent resection was accomplished with a view to cure. Incidentally, malignancies of the left bowel, during the same space of time, were resectable in only 50 per cent of the individuals encountered having that malady. Eighty per cent of the patients having cancer of the right colon were 40 to 70 years of age. 20 per cent were below 40 years of age, and slightly more than 2 per cent were less than 30 years of age. Fifteen to 17 per cent of the patients had been operated upon previously for acute appendicitis. In 13 per cent of the cases, the duration of symptoms was 3 months or less, in 20 per cent, 6 months or less, in 26 per cent, 12 months, and in 41 per cent symptoms had been present for more than one year. Mayo suggested that all individuals more than 30 years of age subjected to surgery for acute appendicitis should have at that time a careful exploration of the entire right colon, and he said that on this account he objected to the use of a small incision for removal of the appendix in that age group. Seventy-five per cent of the 885 patients referred to, at the time of admission to the Mayo Clinic had present a palpable mass. It was remarked that following right colectomy, the kidneys assumed the function of absorption of salt and water ordinarily the work of the right colon. The kidneys likewise assume that function if the right colon is disabled as a result of disease. A definite number of the patients referred to had been treated elsewhere for anemia. In the opinion of Mayo, the anemia that so constantly accompanies malignancy of the right bowel results not from the absorption of toxic products of the growth, but is due to the fact that these growths generally are fairly large in area and are accompanied by slow, constant bleeding. It was found in the group referred to that the younger patients were not so apt to obtain cure as older individuals. However, younger individuals who did survive for five years or more following surgery were apt, according to insurance tables, to live longer than the same age group who had never had a carcinoma of the colon.

The preoperative and postoperative preparation of patients was discussed. It was felt that intraperitoneal vaccination was an adjunct in the management of intra-abdominal malignancy. Of the group submitted to resection, those who, preoperatively, were administered vaccine showed 4 per cent fewer deaths from peritonitis than the group not given preoperatively vaccine. The combination of pentothal induction with spinal anesthesia was favorably commented upon. Mayo believes that a one-stage operation is preferable, though he remarked that his associates, Pemberton and Dixon, usually perform a two-stage procedure with excellent results. Mayo reported that the average mortality for the entire series following ileocolostomy was 15 per cent, and that following a secondary resection was 13 per cent. Following a one stage resection the mortality was 21 per cent. A personal series of 53 resections of the right colon with 6 deaths was presented by the essayist. Of this number, seven were done as a two-stage procedure. Mayo feels that following a one-stage procedure at the end of five years 2½ per cent more patients are living and well. He feels that the time element is one of importance and that the delay incident to a two stage procedure is not desirable. It was further remarked that ileostomy is an additional hazard to these patients and those who have complementary ileostomy following resection show a 6 per cent greater mortality rate than if ileostomy is not added. There was found a higher incidence of lymph node involvement in cancer of the right colon than of the left, but the lymph channels of the right colon apparently possessed the faculty of holding malignant cells in check for a longer period and only 10 per cent of the patients referred to showed at surgery palpable nodules. There was a general five-year survival of these patients of 42 to 77 per cent, depending on the grade of malignancy and of 40 to 70 per cent according to nodal involvement. In the entire series there has been a successful follow-up in 99 per cent of the cases. Certain technical points relating to right colectomy were remarked upon and it was stressed that the ileum should be divided at an angle and that neither cautery nor the aseptic type of pressure clamp was desirable and it was very firmly believed that ileostomy should not be added. As a substitute for the latter measure, felt equally effective and far safer, it was suggested that at the termination of surgery, the sphincter ani be widely dilated. All patients immediately after operation are immediately transfused and all are given oxygen.

—W. H. P.

State Board of Health

Felix J. Underwood, M.D.

Physicians' Records Important in Keeping Medical Licensure Files Up To Date

A large number of applications have been received from German and other foreign physicians, expressing the desire to locate in this state and practice medicine. These physicians. under the rules and regulations of the State Board of Health, cannot be licensed until they have become citizens of the United States and have met the requirements specified in the regulations governing the licensing of physicians in the state.

The regulations require that any individual making application for a license to practice medicine in Mississippi, who is a graduate of a foreign medical school, must show satisfactory proof to the Board: 1. that he or she is a bona fide citizen of the United States; 2. That the school from which the applicant graduated is, or was at the time of graduation, recognized by the Council on Medical Education of the American Medical Association as being a standard medical school; 3. that he or she has spent a minimum of one year as an intern or resident in an approved hospital in the United States or Canada. The regulations further require that the applicant must pass a satisfactory written examination before the Board, before a license can be issued to practice medicine in Mississippi.

Physicians' records are among the most important of all the vital records maintained by the State Board of Health. They are important to not only the physician but to the state's welfare, and the closest co-operation is necessary in keeping them up to date. In order to keep a better check on physicians moving into the state, moving out of the state, moving from one county to another in the state, and on physicians who die, county health officers are providing currently, by means of card notification, much pertinent information and changes for the state roster of physicians maintained by the State Board of Health. Previously, this information had been reported monthly.

A complete roster of the physicians in the state, showing active as well as inactive physicians, white and colored, is issued by the State Board of Health in January and June of each year. A copy of this roster is mailed to each physician in the state, without charge, and additional copies are furnished the physician upon request. The co-operation of all physicians is urged in order that this roster may contain correct information and may be issued promptly each year.

Recently, there has been completed a project through the W.P.A., whereby a copy of each physician's license in the state was made from the records of the circuit clerk's office in each county. These copies have been systematically arranged and bound in books for permanent reference. Since 1933, the State Board of Health has made a photostatic copy of every license issued. These copies are also permanent records and will be kept indefinitely. Should a physician be so unfortunate as to lose his license or have it destroyed by fire, an exact copy of it can be made readily available through these files, showing the signatures of members of the Board and other important information.

The State Board of Health has also had completed a file giving detailed information about each physician in the state. In this file is indicated the county in which license has recorded, including book and page number. Only recently a physician's license was destroyed, and in writing to the State Board of Health he was not aware of the fact that the license had ever been recorded in any county. Upon referring to this file, it was possible to locate the exact page and book number of the circuit clerk's record of his license, thereby enabling him to get a duplicate license immediately.

A physician who changes his address should notify the local county health officer without delay. The State Board of Health makes note of all information which comes through the press, etc., but it is considered of sufficient importance to the individual physician that he should be glad to take the time necessary personally to notify the Board of Health of any postgraduate work or other items which seem pertinent to his record card. The information contained on these cards is very valuable and is used in many instances to assist the physician.

In order that the card may accommodate all necessary information, including changes of address, the physicians' record cards previously used are being replaced by cards twice as large. In addition to preliminary education, medical education, sex, race, place and date of birth, examination grades, etc., the following items have been added: Scholarship, fellowship, honors, and offices held. The new card in use is reproduced below, showing both the front and reverse sides. The importance to the physician of keeping this record up to date should be obvious.

PRELIMINARY EDUCATION

School	Location	Graduation

MEDICAL EDUCATION AND TRAINING

School or Institution	Location	Deg.	Graduation

INTERNSHIP:

SCHOLARSHIP—FELLOWSHIP

(Space)

NAME ....

SEX—Male.............. Female.............. RACE—White.......... Colored..........

PLACE OF BIRTH ....DATE..................

ADDRESS	COUNTY	DATE

NAME ....

PASSED EXAMINATION ON FOLLOWING SUBJECTS:

Anatomy . . . .
Chemistry . . . .
Physiology . . . .
Histology and Bact. . . . .
Pathology . . . .
Materia Med. & Pharma. . . ..
Hygiene . . . .
Surgery . . . .
Obs. & Gynecology . . . .
Physical Diagnosis . . . .
Theory & Practice . . . .
Eye, Ear, Nose & Throat . . ..

General Average ....

Temp. License No.
Issued on
Perm. License No.
Basis Regis.
Issued on
Recommended by:

Narcotic Violations:

(Space)

CERTIFIED TO:

State	Date	State	Date

Honors or Offices Held:

(Space)

Date of Death .... D. C. No.........................

Place of Death ....

Cause of Death ....

Place of Burial ....

Miscellaneous News

From a Clipping:

"At the Louisville meeting of the Southern Branch of the American Public Health Association, Dr. Felix J. Underwood, State Health Officer, was unanimously elected president. He will preside at the St. Louis meeting in November, 1941, when health workers of eighteen states and the District of Columbia will gather for a 3-day conference. It was just ten years ago, 1930, that Dr. Underwood was elected president of the Southern Medical Association, meeting at Louisville. He presided at the New Orleans meeting in 1931. Dr. Underwood has also served as president of the National Malaria Committee.

"Dr. H. C. Ricks, director of laboratories of the State Board of Health, was elected chairman of the Public Health Section of the Southern Medical Association this year, having served as secretary for three years. The Public Health Section is one of the largest sections of the Southern Medical Association.

"At the American Public Health Association meeting in Detroit in October, Dr. R. N. Whitfield, director of the Division of Vital Statistics of the State Board of Health, was elected chairman of the Vital Statistics Section. Mr. H. A. Kroeze, director of the Division of Sanitary Engineering, was elected chairman of the National Defense Sanitation Committee.

"Physicians and health workers of the nation are loud in their praise of the public health officials of Mississippi in viewing the well-rounded public health program carried out for the protection of health and lives of Mississippians."

* * * *

The Vanderbilt University School of Medicine has invited two of Mississippi's health officials to deliver a series of lectures on phases of sanitary engineering. Mr. H. A. Kroeze and Mr. Nelson H. Rector, both of the Mississippi State Board of Health's Division of Sanitary Engineering, will lecture to classes. It is Mr. Kroeze's fifth consecutive year to be called on by the University for this service.

* * * *

Surgeon General Thomas Parran has notified Dr. Underwood of the appointment of nine liaison officers to act as intermediaries in public health problems arising in extra-military areas. Increased health hazards around Camp Shelby will be given attention by a specially assigned public health service officer. The nine officers appointed by Dr. Parran are: Dr. L. L. Williams, Dr. W. T. Harrison, Dr. Frank V. Meriwether, Dr. Leon O. Weldon, Dr. K. E. Miller, Dr. Albert E. Russell, Dr. Harvey J. Warner, Dr. Joseph Bolton and Dr. Edgar W. Norris.

* * * *

The Mississippi Public Health Association, which meets in Jackson, December 11-13, is scheduled to hear some distinguished speakers on timely public health topics, announces Dr. Geo. E. Riley, Chairman on Arrangements. The program lists such outstanding persons as the following: Dr. O. C. Wenger, Senior Surgeon of the Division of Venereal Disease Control, United States Public Health Service; two former members of the Mississippi health staff: Dr. C. C. Applewhite, Senior Surgeon and Regional Director of the Public Health Service, New Orleans, and Dr. J. B. Black, Rutherford County Health Officer, Murfreesboro, Tennessee; Dr. W. F. Walker, Director of the Division of Health Studies, Commonwealth Fund, New York City; Dr. Maxwell E. Lapham, Dean of the Tulane University School of Medicine, Dr. John Collinson, Bureau of the Census, Washington; Mr. L. H. Male, Associate Public Health Engineer, United States Public Health Service, New Orleans; and Dr. Samuel R. Damon, Director of Laboratories of the Alabama State Health Department, Montgomery.

Dr. W. H. Cleveland, Director of the Lee County Health Department at Tupelo, is president of the Mississippi Public Health Association and will be in charge of all general sessions.

CENTRAL MEDICAL SOCIETY ELECTS OFFICERS

The following officers of the Central Medical Society were elected at the regular annual meeting held at the Robert E. Lee Hotel, Jackson, Mississippi, Tuesday, December 3. 1940:

President: Dr. W. E. Noblin, Sr. Jackson; President-Elect, Dr. R. B. Austin, Forest; Secretary, Dr. H. C. Ricks, Jackson; Treasurer, Dr. J. G. Thompson, Jackson; Member of Board of Censors, Dr. D. W. Jones, Jackson.

County Officers

Hinds: Dr. Hardie R. Hays, vice-president; Dr. D. T. Brock, Dr. H. C. Ricks, Dr. J. G. Thompson, delegates; Dr. Lee Lipscomb, Dr.

L. T. Carl, Dr. Hardie R. Hays, alternate delegates.

Leake: Dr. F. L. Brantley, vice-president; Dr. H. H. Puryear, delegate; Dr. F. L. Brantley, alternate delegate.

Madison: Dr. Isaac Edwards, vice-president; Dr. J. B. Howell, Sr., delegate; Dr. C. H. Heywood, alternate delegate.

Rankin: Dr. S. K. Johnston, vice-president; Dr. C. H. Denser, delegate; Dr. J. E. Wadlington, alternate delegate.

Scott: Dr. G. G. Townsend, vice-president; Dr. J. R. Plummer, delegate; Dr. J. M. Townsend, alternate delegate.

Simpson: Dr. E. L. Walker, vice-president; Dr. A. E. Kennedy, delegate; Dr. E. L. Walker, alternate delegate.

Smith: Dr. W. M. Coursey, vice-president; Dr. W. M. Coursey, delegate; Dr. C. A. Kennedy, alternate delegate.

Yazoo: Dr. W. D. McCalip, vice-president; Dr. S. G. Mounger, delegate; Dr. Gilruth Darrington, alternate delegate.

DESOTO COUNTY

Before more than 2,000 physicians of the Southern Medical Association in Louisville. Kentucky, Dr. Thomas Parran, surgeon general of the United States Public Health Service, said that in the control of venereal diseases in armed forces in the selection of the best men, particularly for the Army and Navy Air Corps, and in the prevention and control of diseases such as pneumonia and typhoid, great advances have been made in protecting the health of soldiers.

The Army and Navy have no intention of drafting physicians who are essential to the health of a community into military service.

The belief was expressed that the problem of disease would not be as great as during the first World War because of the development of better methods of prevention and treatment and the application lessons learned in 1914-18.

The vacancy caused by the untimely death of Dr. Quitman Underwood Newell, St. Louis, Mo., president-elect, was filled by the selection of Dr. M. Pinson Neal, Columbia, Mo.

Dr. Paul H. Ringer, Asheville, N. C., was elected association president succeeding Dr. Arthur T. McCormack, Louisville.

We felt strongly inclined toward the late Dr. Newell, an Alabamian by birth, an ardent Southerner, a gentleman and a magnificent doctor.

Dr. Felix J. Underwood, of Jackson, Miss., was elected president of the Southern branch of the American Public Health Association, succeeding Dr. G. Foard McGinnis, of Memphis, Tenn.

At the Louisville meeting, motion pictures of tiny blood vessels showing how malaria parasites in the blood vessels actually make the heart work itself to death, were shown by Dr. Melvin H. Knisely, University of Chicago anatomist, now working at the University of Tennessee at Memphis.

By the use of a delicate technique using light transmitted through a quartz rod and highly magnified color pictures, he demonstrated how the malaria germ creates a thick smudge in the blood which blocks the circulation and makes the heart work twice or thrice as hard to pump blood and its oxygen burden to distant tissues of the body. Thus, what has been formerly believed to be blocking of the heart by blood clots is actually an overload on the pumping system. Knisely and his associates, Dr. Warren K. Stratman-Thomas, malaria expert of the Tennessee Valley Authority, and Dr. Theodore S. Eliot of the University of Tennessee, also showed in their experiments on monkeys that heparin, a new drug used to stimulate the heart, actually stimulates the malaria parasites in the blood stream and kills the animals by absorption of oxygen from the blood by the bacteria. The same effect, they believe, occurs in man.

All three of the men are working at Memphis.

The malaria problem was a topic muchly discussed.

National Red Cross societies now circle the globe, numbering more than sixty nations. All but a few have adopted the emblem of the Red Cross. Millions of troubled and perplexed people are dependent for relief and humane organization which strives to mitigate man's inhumanity to man.

A light-weight compact raincoat for men has just been introduced which is small enough to be carried in coat pocket, brief cases, and the like. It is furnished with a carrying case of the same material.

It is said that in a half hour of reading you'll move your eyes more than 100,000 times.

The tallest man in the world, it is stated, is a native of Alexandria, Egypt. His name is Saad Ghabi, and he is twenty-six years of age.

His height is nine feet, four and one-fifth inches, and he is still growing. Some overworked gland.

Wit and Wisdom

When some churches want a new minister they want one with:

—the strength of an eagle,
—the gentleness of a dove,
—the grace of a swan,
—the eye of a hawk.
—the friendliness of a sparrow,
—the night hours of an owl,
—the industry of a woodpecker,
—the attractiveness of a peacock,
—the tough skin of a gander,

and when they get that bird they want him to live on the food of a canary.—Selected.

As usual the North Mississippi Medical Society's program was outstanding; those appearing were members of the faculty of the Tulane University of Louisiana School of Medicine, Dr. R. E. Shands, of New Albany, and Dr. D. S. Pankratz of the faculty of the University of Mississippi School of Medicine.

Dr. D. C. French, of Water Valley, is president and Dr. A. H. Little, of Oxford, is secretary-treasurer.

The meeting was held in the Graduate School School Building, October 16, 1940. The attendance and interest were good. Dr. Frank Ferrell was elected president for 1941.

Fidelity

Fidelity is simply daring to be true in small things as well as great.—Henry Van Dyke.

Borrowed Epitaphs

Tom Jones has gone to heavenly heights;
He tried to drive without his lights.

Jack Hayes this busy life forsakes;
He never would reline his brakes.

Here's all that's left of Amos Bossing;
He tried to beat it to the crossing.

No more from Brown are earthly smiles;
He took the curve at sixty miles.

Ted Small has gone to his abode;
He always kept the middle of the road.

Here lies our friend, poor Tony Dix;
Booze and gasoline won't mix.

Henry's friends are all bereft;
He made a short turn to the left.

Ben Gray is free from earthly pains;
A rainy day—he had no chains.

Poor Bill's beneath the sod, alas;
He speeded up and tried to pass.

Now Tom has joined the heavenly band;
He tried to drive with one hand.

—Georgia Highways Through Dallas News.

The "road hogs" and the driver who persistently refuses to dim his bright lights should go somewhere and stay a long time. Pest on them and the like. With them also goes the "brainless honkers."

Dr. Lawrence W. Long, of Jackson, one of the editors of the MISSISSIPPI DOCTOR, is now the medical assistant, chief of the Medical Division on Selective Service, for the state of Mississippi with a rank of Major. A high office worthily bestowed and capably directed.

The American Academy of Pediatrics is in session in Hotel Peabody, Memphis. The doctors' wives are being shown much attention by the local committee of the Ladies' Auxiliary.

A trip to Holly Springs "where the old South meets the new," was a feature of the social activities, the old homes eliciting noticeable comment.

Quarantine procedures for scarlet fever patients were described as "antiquated" and suggestions made for their modernization.

The treatment of pneumonia in children was found to be more successful with sulfathiazole than with the older form of treatment with sulfapyridine, especially in the case of babies.

Feeding babies of four months' age was discussed at length, some doctors were in favor of giving these accessory foods; others milk and juices.

Allergy and treatment and causes of behavior problems in the young was reported interesting and informative.

A barbecue and brunswick stew was tendered the members, after visiting gins and compresses. This was a new feature to many of the baby doctors. Boston was selected as a meeting place for 1941. This city is the home of the new president, Dr. Richard M. Smith.

Dr. Edward Clay Mitchell, convention arrangement chairman, was chosen unanimously president-elect. Dr. Mitchell has been ill for some time but is much improved and expects complete recovery at an early date.

Another engaging feature was when the Academy viewed a film, "When Bobby Goes to School," showing the relation of the pediatrician to the child and the mother's place in this relationship. The film is available to organized lay groups.

Rt. 4, Memphis, Tenn. L. L. MINOR,
November 19, 1940. Editor.

THIRTEEN COUNTIES MEDICAL SOCIETY TO MEET AT TUPELO

The meeting of the Thirteen Counties Medical Society will be held at Tupelo in the Methodist Church, Tuesday, December 10. Following the scientific program there will be a banquet given for the doctors and their wives at 6:00 P.M. at Hotel Tupelo by Thomas-Kincannon-Elkin Drug Company.

The scientific program is as follows:

Meeting called to order by the president, Dr. J. T. Senter, Fulton.

Invocation by Rev. W. A. Tyson, pastor of the Methodist Church.

Reading and adoption of minutes of last meeting.

Paper: "The Relationship of Dentistry to Medicine in a Modern Concept"—Dr. Charles Nash, Dental Surgeon, Tupelo.

Paper: "Care of the Newborn"—Dr. Charles E. Ward, Jackson.

Paper: "Gall Bladder Disease"—Dr. M. Q. Ewing, Amory.

Paper: "Pelvic Conditions in Gynecology and Obstetrics"—Dr. W. T. Pride, Memphis.

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Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITIES CALENDAR

June—HYGEIA.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Pre-Natal Care.
April—Cancer.
May—Alcohol.

PEACE

(To Dr. L. L. Minor, Memphis Rt. 4, we are indebted for the following treatise on "Peace").

On Christmas Day for a few moments war and hate and blood will be forgotten in the golden bond of Christmas. And before the Christmas sun is set men will be again at the tragic business of killing. Even in our own land Christmas will be that—a momentary comradeship in no-man's land of doubt and fear, a fact remembered for a day.

Yet there are those who would keep it a faith to be lived every day. They would bring life to the sorrowing heart of the world, full and abundant and rich and free. One whose eyes opened in Bethlehem and closed on Calvary saw all the days of life in the light of the Christmas love and gave those who would the power to see with His eyes. Despite the added numbers to faithless years, few generations have sought life and its last meaning with more earnestness than today's. Small fragments of it have been found in the laboratory, in the wine of pleasure or in the conquest of nature. But a last great journey e-mains—the journey to Bethlehem, that in the days after Christmas man may believe anew what the shepherds told—God came down to earth. This answered man's profoundest need and his highest hope; this should be the meaning of Christmas, his renewal of faith. A true celebration of Christmas remains on through the year, when

Love shall be our token,
Love be yours and love be mine,
Love to God and all men,
Love for plea and gift and sign.
—Christini Rossetti.

Then according to God's plan men would find peace such as the seer Micah so eloquently describes:

"And He shall judge among many people, and rebuke strong nations afar off; and they shall beat their swords into plowshares, and their spears into pruninghooks; nation shall not lift up a sword against nation, neither shall they learn war any more.

"But they shall sit every man under his vine and under his fig tree; and none shall make them afraid: for the mouth of the Lord of hosts hath spoken it."

Peace remains with those who, like the true physician, carry in their hearts hope while each day's service is performed as best it may:

And only the Master shall praise us, and only the Master shall blame,
And no one shall work for money, and no one shall work for fame;
But each for the joy of working and each in his separate star,
Shall draw the Thing as he sees It, for the God of Things as they are.
—Kipling.

It is with understanding and faithfulness that the doctor keeps to his own council, secrets that if told would cause incalculable harm; many of the panoramic views that come within a busy doctor's day are interesting but he must remain silent about them.

Such as ships and brittle barks
Into the seas descend,
They see the glories of the Lord
And wonders without end,
But such as heal the sick and maimed
Do meet more manifold
Amazements in one midnight watch
Than all the oceans hold.
—Kipling

No time of the year throws into relief the ideals, the faith and the unselfishness of doctors whose daily deeds follow His precept, "I come not to be ministered unto but to minister," as the Christmastide. And no class of men, holding to their code, can declare with greater effect, "Peace on earth, good will toward men."

PUSH HYGEIA THIS MONTH

This month HYGEIA calls our attention to the "Professional Offer" of $1.25 for a year's subscription—one-half price. Every town is urged to have HYGEIA in every doctor's office, every beauty parlor and the school libraries. Make your Auxiliary 100% before the month is out. Send your subscription to Mrs. B. B. Martin, Jr., Vicksburg, Miss., State Hygiene Chairman.

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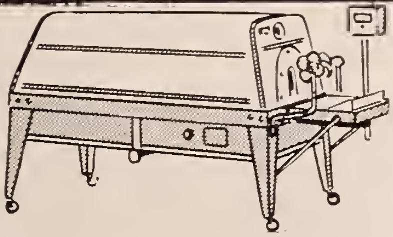

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VOL. 18 BOONEVILLE, MISSISSIPPI, JANUARY, 1941 NO. 8

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I sing a song to pioneers of peace,
A New Year song to you who dare to dream
Of dawning days when crimson war shall cease
And beacon lights of right again shall gleam.

Beneath the breast of you who live to heal,
No passive spirit quails in dire dismay,
True patriots, true democrats, you feel,
The romance of your calling, day by day.

God give you courage for your task in hand.
God shield you from the tyranny of State.
As sturdy individuals may you stand
For those proud principles which made you great.

Be still a boon to those who suffer pain.
Give hope and comfort where the way seems dark.
Be men of God in body, heart and brain,
The kind of men mankind delights to mark.

I sing a song to pioneers of peace
A New Year song to pulse from soul to soul.
Of wisdom Heaven give you high increase
And strength, at length, to gain your dearest goal.

DAVID E. GUYTON,

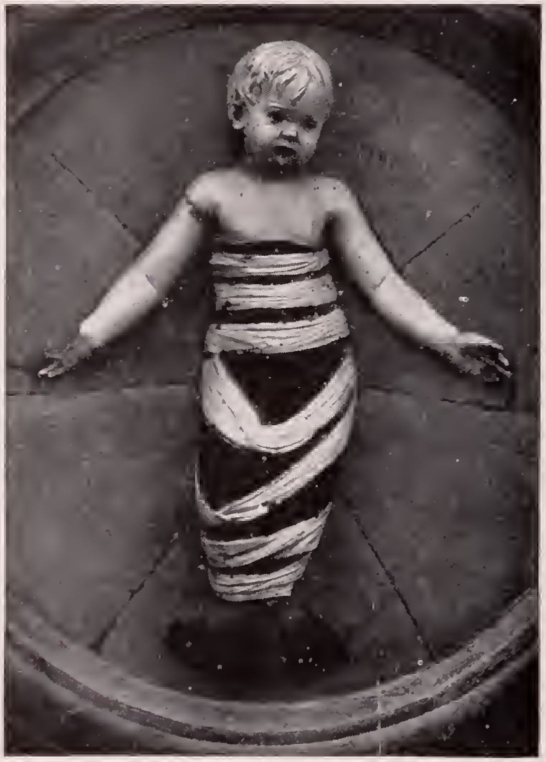
Blue Mountain, Mississippi.

(Written by request for THE MISSISSIPPI DOCTOR.)

DAVID E. GUYTON

Professor of History, Blue Mountain College, the official poet for THE MISSISSIPPI DOCTOR and nationally known for his verse.

The swaddled infant pictured at right is one of the famous works in terra cotta exquisitely modeled by the fifteenth century Italian sculptor, Andrea della Robbia. In that day infants were bandaged from birth to preserve the symmetry of their bodies, but still the gibbous spine and distorted limbs of severe rickets often made their appearance.



A bambino from the Foundling Hospital, Florence, Italy,—A. della Robbia

Glisson, writing in 1671, described an ingenious use of swaddling bands — "first crossing the Brest and coming under the Armpits, then about the Head and under the Chin and then receiving the hands by two handles, so that it is a pleasure to see the Child hanging pendulous in the Air . . . This kind of Excercise . . . helpeth to restore the crooked Bones. . . ."

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"This is observed to happen more in the neighborhood of Rome than in other places," he wrote. "If no one oversees the infant's movements, his limbs do in the generality of cases become twisted. . . . Hence, when he first begins to sit he must be propped by swathings of bandages. . . ." Hundreds of years later swaddling was still prevalent in Italy, as attested by the sculptures of the della Robbias and their contemporaries. For infants who were strong Glisson suggested placing "Leaden Shooes" on their feet and suspending them with swaddling bands in mid-air.

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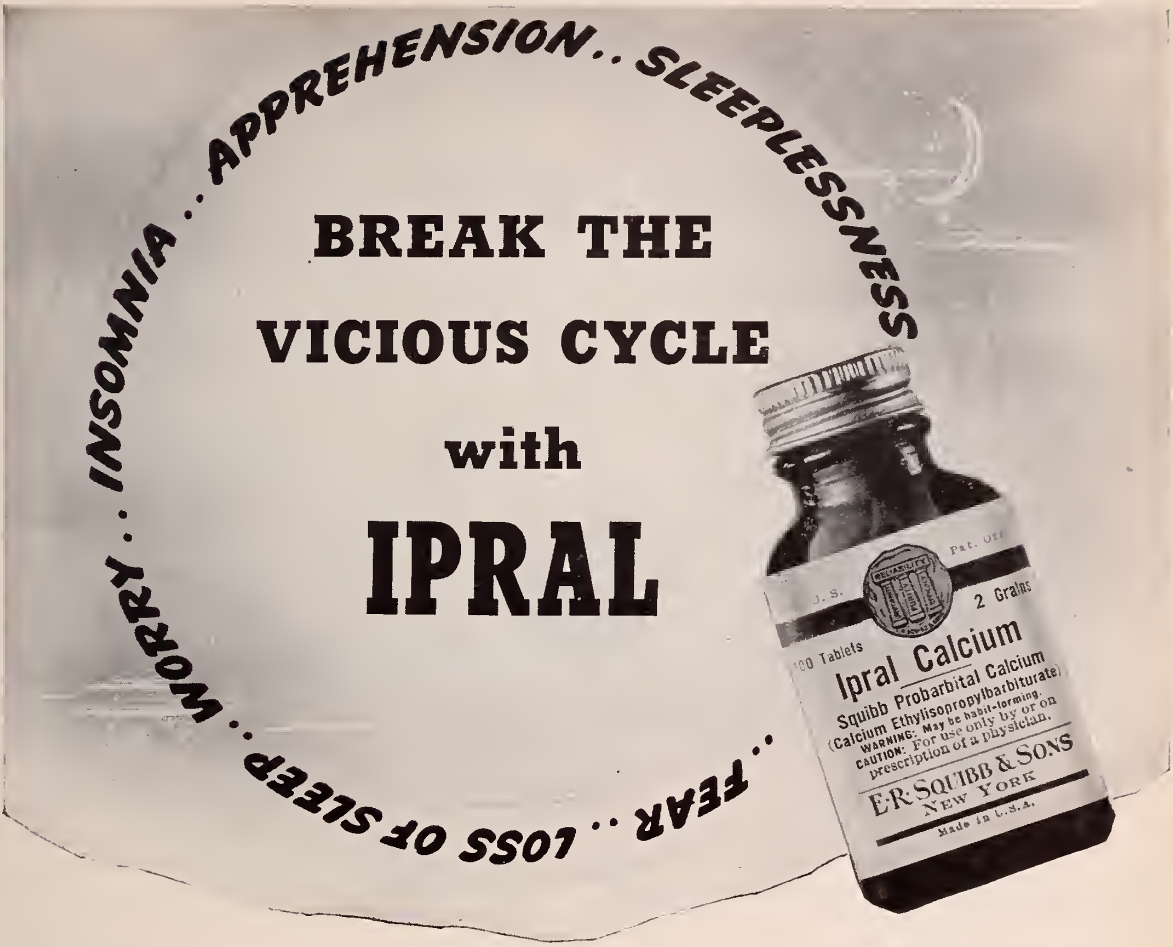
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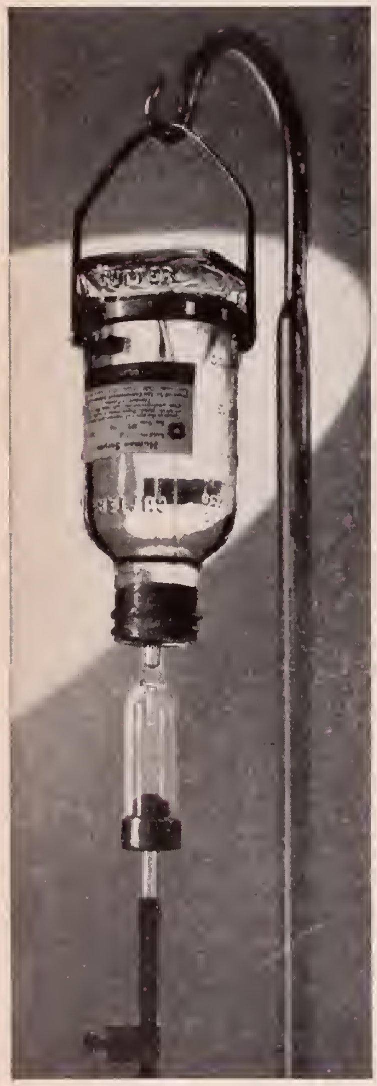

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Thyroidectomy as a Therapeutic Measure*

EDWIN E. BENOIST, M.D.
NATCHEZ, MISS.

THE QUESTION that arises in contemplating thyroidectomy is whether or not the patient needs the operation. That is, is it reasonable to assume that by thyroidectomy the patient will be rid of certain objectionable symptoms that can be eradicated in no other way than by operation. After thyroidectomy, the question arises as to whether or not the operation was justified in the light of results obtained. The indications for thyroidectomy and the various accepted technics employed have been worked out rather thoroughly. Common indications for operation are tumor, goitre with exophthalmos, thyrotoxicosis or both, thyroiditis and mass pressure from large colloid goitre.

Classification of thyroid disease is variously done by authors. David Marine of New York classifies pathologic changes of the thyroid into: active hypertrophy and hyperplasia, colloid goitre, atrophies, degenerations, inflammations, tumors and complications such as hemorrhage and cyst formation. Boyd, of Winnipeg, states that the word goitre means merely an enlargement of the thyroid gland. He states also that from the pathological point of view, classification is far from satisfactory, but that grouping is usually done into the three divisions: simple or endemic (colloid) goitre, adenomatous goitre and exophthalmic goitre. These groups he has named as follows: 1. diffuse goitre with involution, 2. nodular goitre and, 3. diffuse goitre with hyperplasia.

Viewed from the clinical standpoint, the criterion for operation is not the mere presence of an enlarged thyroid gland, but is the presence of a train of one or more symptoms that are more or less unmistakably traceable to faulty thyroid function, and which are damaging to the body as a whole. The thyroid itself is almost invariably enlarged, where there is such a train of symptoms, either the whole gland or a part of it. In congestive heart failure and arterial hypertension, the normal thyroid has occasionally been removed in treatment.

The following list of symptoms, while not complete, will cover the usual symptoms complained of by a patient with thyroid disease:

PRESSURE: fullness, dysphagia, choking, dyspnea, stridor, asphyxia, recurrent nerve paralysis.

CARDIAC: true goitre heart from shunted blood supply and work atrophy, toxic with tachycardia and later myocarditis.

SKIN: vitiligo, browning, eczema, ichthyosis, scleroderma, failing nutrition marked by falling hair.

GENERAL: tremor, exophthalmos, muscular weakness, status asthenicus, increased excitability, tightness through chest, weight loss, menstrual disturbances.

In toxic goitre, exophthalmos is present in about 33 per cent of cases. Various signs for its recognition are Stellwag's, Dalrymple's, Moebius', Joffroy's and von Graefe's. To have exophthalmos, there must be present thyroid insufficiency plus hyperactivity of the anterior lobe of the pituitary gland. The basal metabolism estimation is valuable, but may be high, low or minus, according to the state of activity of the gland at the time taken. Exacerbations and remissions occur in the course of thyroid disease, with parallel changes in the basal metabolic rate. Therefore it is important that a series of B. M. R. readings be obtained if a true picture of the metabolic rate is wanted. Isolated B. M. R. readings are of value to assist with the diagnosis and to point out the probable line of treatment to be followed.

The following cases are abstracted for illustration only. With one exception, catgut was used throughout, excepting skin closure. The preglandular muscles were severed in one case only.

CASE 1. Mrs. P. M. White female. June 1937: Aged 31. Weight 106. B. P. 130-80. Pulse 120. Temp. 98. B. M. R. minus 7. Complaints: Nervous. Faint. Head felt "funny." Knees "wobbly." Cried easily. Choking. Previous treatment: Lextron, Lugol's, and suggestions else-

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*Read before the seventy-third annual session of the Mississippi State Medical Association. Jackson, May 15, 1940.

where that the thyroid be removed. The thyroid was barely palpable. Eye signs were absent. The heart exhibited normal findings. Treatment given consisted of thyroid extract, vitamin B complex and iron. The opinion at this stage was that the patient had a simple goitre in the early stage. In Dec. 1937, the weight had risen to 126. Other findings were about the same. She was sleeping better, rarely nervous and felt greatly improved. The thyroid was no larger than before. In February 1940, after a period of two years of reasonably good health, all her former symptoms returned. The same kind of treatment as before was instituted, the thyroid extract in dosage of 2 grains per day. Under this, improvement is noticed.

CASE 2. Miss S. F. White female. In May, 1939, was 19 years old. She was slim, nervous, underweight, sallow and face covered with pimples. B. P. 110-80. Pulse 108. Temp. 98.6. B. M. R. plus 6. Past history: usual diseases of childhood. Menses regular. Nothing else. Complaint: Acne rash, nervous, easily tired, cardiac palpitation. Previous treatment: none. The thyroid was not enlarged palpably. There was no exophthalmos, or at least very slight, if any. The heart beat was forcible and a systolic murmur could be heard at the apex. It was believed that she had exophthalmic goitre in an early stage. Prolan injections and Lugol's solution were administered. In March 1940 there is a definite weight gain. The acne has almost completely disappeared. B. P. 140-90. Pulse 84. Temp. 98.6. She has no complaint. Her eyes are brighter and have more expression. Her color is better. The right lobe of the thyroid is now enlarged. No prolan has been given for six months. Lugol's solution recommended.

Opinion: Exophthalmic goitre. This patient may later need thyroidectomy for cure. It will be undesirable to continue Lugol's solution for an indefinite period because of possible iodine poisoning and because prolonged use will at times increase the severity of the disease.

CASE 3. Louise W. Colored. In May 1937, the weight was about 135. Age was 39. Temp. 98.6. Pulse 90. B. M. R. not obtained. Past history: Lues treated, ulcer of duodenum, exfoliative dermatitis, childhood diseases, no pregnancies. Complaint: Tired easily, insomnia, anorexia, pressure in neck and choking. The thyroid gland itself was large but not nodular. Her mother had had an enormous goitre, much larger than the one under consideration. Eye signs absent. Heart: Diastole prolonged; systolic murmur over right base due to apparent aortitis. Opinion: Colloid goitre, terminal stage, symptoms largely due to pressure and nonfunction. In 1939, this patient was having attacks of cardiac palpitation, insomnia, and attacks of hysteria. Complete thyroidectomy was done August 18, 1939.

In March 1940, the improvement was apparent. She was much calmer than before. Subjective symptoms were fewer. Her mental outlook was healthier. Some nervousness remained. This was alleviated by administration of small doses of thyroid extract. Temperature was 98, pulse 80, B. P. 120-80.

CASE 4. Annie L. Colored female, school teacher. In 1934 this patient was 45 years of age. She was currently teaching school, but had become so talkative and so flighty that the question arose as to her mental ability to continue rational schoolteaching. Her bloodpressure was 200-110. Temp. 98.6. Pulse 120. Complaint: Cardiac palpitation, loss of weight, headaches, nervous, affected by noises, easily angered, amnesia, choking sensation, insomnia. She had been released from schoolteaching. Examination showed a large adenoma of the right lobe of the thyroid. No eye signs were present. Heart: rapid; no murmurs. Opinion: Goitre with adenoma and thyrotoxicosis. Treatment: subtotal thyroidectomy.

October, 1935: B. P. 184-96. Temp. normal. Pulse 120. Complaint: none.

March, 1940: B. P. 180-90. Temp. normal. Pulse 100. Complaint: none. Has become very placid. Formerly very talkative. Now is quiet and well-behaved. Conversation rational.

CASE 5. Mrs. E. F. H. White female. In May, 1929, was 21 years of age. Weight 85. B. P. 130-88. Pulse 132. Temp. 99.2. B. M. R. not obtained. Past history: measles, pertussis, mumps, varioloid, tonsillitis. Menses always irregular without pain. Two normal labors, the last in July, 1928. (Lugol's had been begun in December, 1928). Complaint: choking, loss of weight, from 110 to 85 in 5 months, fever, dyspnea, tumor in neck, palpitation of heart, loss of appetite. Thyroid: enlarged, chiefly right lobe. Eye signs: none. Heart: mitral blow transmitted to axilla, moderate dilatation. Treatment: Subtotal thyroidectomy. Opinion Exophthalmic goitre.

In March, 1940, this patient was sought out for follow-up. Her age is now 31. There have been two more children born since the thyroidectomy. Weight now is 135. B. P. 132-74. Pulse 96. Temp. 98.6. Complaint: none. Thyroid: no recurrence. Heart: quiet, no murmur. Opinion: cured.

CASE 6. Mrs. H. Mc N. Aged 37 in 1940.

This patient was in good health in 1919 at which time she became married. Six months after marriage she noticed that she was unduly nervous and subject to palpitation of the heart. She was treated with bromides and tonics but obtained palliation only. In 1922 her first and only child was born. She was first seen for her present trouble in 1925. Her condition could be described at that time by the term, "nervous wreck." She was unable to control her emotions, perspired freely, slept poorly, was easily frightened by noises, was apprehensive, had a large thyroid, had choking sensations and felt as if she were about to die. Pulse fast and thready. Heart dilated. Her life was spent in fear of everything. Menses had ceased. There was some weight loss, moderate exophthalmos. No. B. M. R. reading was obtained but a diagnosis of exophthalmic goitre would have held regardless of the reading. Thyroidectomy was advised. Because of the severity of the symptoms, ligations before extirpation were planned. In 1926, the right superior thyroid artery was ligated. In 1927, the left was ligated. The long intervals between ligations were due to her apprehension. Later she was admitted for thyroidectomy, which she refused after entering the hospital. Thyroidectomy was never done. Her symptoms cleared rapidly after the second ligation and she was lost sight of. In 1940 her weight is standard. Her daily routine is uneventful. She feels that she is well. The thyroid shows no enlargement; is barely palpable. Pulse is 72, heart sounds normal, B. P. 120-80. Opinion: exophthalmic goitre, cured.

CASE 7. Mrs. F. J. Jr., W. F., Aged 33.

This case is an example of muddling along until one becomes impelled to remove a thyroid after all else has failed. The patient had been through several hands, had had one full-term pregnancy, had had a cervical cauterization, tonics, bromides, and patent medicines. She was of the slim visceroptotic type, never feeling well. The family and friends had grown to accept her as a complainer, and superficially it was apparent that she enjoyed being ill. The first record of her case, at hand, shows that in 1936 she was observed, at which time she complained of indigestion, underweight, no appetite, tendency to constipation, always feeling bad, always "weak," headaches, nausea without vomiting. Weight 106. B. P. 120-80, pulse regular 106, temp. 99.4, coated tongue, mild tonsillitis, visceroptosis, floating kidneys, tender over the appendix, pelvic structures lax. Heart and lungs were apparently normal, though at times a systolic murmur could be detected over the cardiac apex, not transmitted. In 1927 she developed general arthritic pains. The catheterized urine revealed no pathology, uterine cervix was apparently healthy, all teeth were absent, tonsils were moderately healthy, all teeth were absent, tonsils were moderately hypertrophied. In August, 1937, examination of the lungs was made by a specialist. No lung disease was found. Blood studies, including malarial investigation, gave no leads as to treatment. Quinine was administered, nevertheless, as a therapeutic test, and in hope of breaking the constant fever. In January, 1938, the complaint was that she would "throb" all over, and feel as if she had been beaten all over. Indigestion and constipation were regular complaints. The tonsils were removed at this time, after which she imagined that she felt better. The temperature stayed around 99.4, pulse 108, just the same In August, 1938, there was for the first time a definite complaint of tightness in the neck. A basal metabolism test was made and reading was plus four. The thyroid began to show some noticeable enlargement, though the amount of swelling was slight. A skin test for tuberculosis at this time was negative. In October, 1938, Lugol's solution was commenced. Immediate subjective improvement was noticed. The pulse dropped to 96. In May, 1939, complete thyroidectomy was done. The immediate results were not marked. However, the weight began to rise, her general appearance began to improve, the subjective symptoms formerly complained of disappeared. In 1940 her weight shows a gain of about thirty pounds. Temperature is normal. Insofar as her general health, activity and pursuit of household duties are concerned, she is well. There is no myxedema, though her facies may suggest it on casual observation.

CASE 8. Mrs. J. A., W. F. Aged 29 in 1937.

This patient was seen in September, 1937, at which time the complaint was enlargement of the neck, pains in the "top of head," sweating. Past history included scarlet fever, hemorrhoids not operated, childbirth in 1935 at which time her blood-pressure was high and there were albumin and casts in the urine.

Examination: Weight 115, B. P. 146-96, pulse 120, temp. 99.2, thyroid right lobe slightly enlarged, eye signs none, heart no pathology found, blood counts normal. Treatment was expectant.

March, 1938: Weight 113. B. P. 134-88; 150-90. Pulse 110. Temp. 99.4. B. M. R. minus 2. Since last report, had had cervical cauterization and local treatment of hemorrhoids. Menses: irregular. Dizziness. Frightened. Nervous. Faint. Choking sensations. Thyroid: larger. Eye signs: slight exophthalmos. Lugol's solution prescribed.

August, 1938: Weight 108. B. P. 160-100. Pulse 120. Temp. 99.6. Thyroid: smaller. Complaints: less. Heart: systolic murmur at apex. Diagnosis: Exophthalmic goitre. Treatment: sub-total thyroidectomy.

December, 1939: Weight increasing. B. P. 124-80. Pulse 100. Temp. 98.6. This patient now showing marked improvement. Feels well. Previous symptoms absent. Relief of symptoms complete.

CASE 9. Mrs. Thos. O., White female.

This patient was seen in the latter months of 1934, prior to which time she had been apparently healthy. Married several years and no pregnancies. Complaint: pressure in neck, loss of weight, nervousness; symptoms that had appeared without warning, in an otherwise placid existence, a few months before. Past history: measles, pertussis, tonsillectomy. Menses always regular and without incident. Lugol's solution had been prescribed with some mitigation of symptoms. In December, 1934, the symptoms were cardiac palpitation, pressure upon trachea, dysphagia, loss of weight. Temp. 98.6. B. P. 120-84. Pulse 108. No exophthalmos. Neck veins engorged. Thyroid large; greatest in right lobe. Dilatation of heart with mitral murmur. Physical examination otherwise revealed no significant pathology.

Subtotal thyroidectomy was done in December, 1934. The physical condition improved steadily. In 1936, pulse was 80, blood-pressure 128-84. In November, 1936, Caesarean section was done after thirty hours of ineffectual labor, with uterine atony and dystocia due to a disproportionately large child. Opinion: Exophthalmic goitre.

CASE 10. Mrs. Wm. B. White female, aged 31.

This patient was examined in May, 1937, for obstetrical delivery. In the past history were the usual diseases of childhood, two miscarriages at about two to three months of pregnancy each, and a goitrous mass in the neck for which operation had been advised. During the present pregnancy, progesterone and vitamin E had been administered in the effort to insure and maintain gravidity. Most of the pregnancy had been spent in bed for the same reason. The weight was above normal and had been above normal for several years. Labor commenced in the eighth calendar month of pregnancy and the child was delivered on May 24, 1937. General edema was present, and the urine showed albumin and casts. A four-day loss of amniotic fluid preceded delivery. The child, apparently normal at birth, died within the twelve-hour period.

In July, 1937, the basal metabolism estimation was plus 1. Blood pressure was 140-94, pulse 110. There was excessive perspiration, palpitation of the heart, nervousness. Slight exophthalmos was observed. The mass in the neck was a circumscribed nodule appearing to be four cm. in diameter and located in an enlarged right lobe. In June 1938, the patient consented to operation and subtotal thyroidectomy was done. Improvement has been definite since the operation, mainly subjective. Blood pressure and pulse readings have remained about as before. However, the nervousness, hyperidrosis, neck pressure and other symptoms of thyroid toxicity have disappeared. Pregnancy had been present three months at the time of the thyroidectomy. The child was later delivered by Caesarean section. In 1940 there is an additional pregnancy.

Opinion: Thyroid adenoma with toxic symptoms.

CASE 11. Mrs. E. D. R. White female. Aged 31. This patient had been married fourteen years. The mother and one sister (see case 10) had had thyroid disease, the sister having had thyroidectomy. In the past history were measles, pneumonia, influenza; one child born in 1927, one in 1930, one in 1932. During the third pregnancy there were precordial pain and cardiac palpitation. The heart was moderately dilated, with mitral murmur and increased pulse rate. In 1933 a therapeutic absorption had been done. In November 1939, while visiting in a neighboring city there was an attack of some kind, diagnosed as a heart attack by the physician who was called in. On examination after her arrival back home after this attack, it was found that the weight was below normal, pulse rapid, heart dilated, mitral blow present, thyroid enlarged, eyes showing fixity and staring expression. There were symptoms of nervousness, choking, insomnia, and fear. Lugol's solution, complete rest and vitamin B complex with iron were instituted. In March 1940, the B. M. R. was zero. On March 13, 1940, subtotal thyroidectomy was done leaving about 1 gm. of the left lower pole behind. The only parathyroid tissue observed was a mass 1½ cm. in diameter on the right. This was not disturbed even though larger than usually found.

Since operation, this patient has begun to gain weight and seems to feel better, though it is too early to draw conclusions. Her former symptoms have for the most part disappeared, though she is still somewhat nervous.

The microscopic section showed "thyroiditis chronic."

Opinion: Thyrotoxicosis (exophthalmic group).

In conclusion it will be called to mind that several things may exist in the condition termed goitre. One is almost led to believe, after observing cases of goitre, that simple goitre and exophthalmic goitre are but different stages of the same disease. While this is in no manner proved, it is an interesting subject for contemplation.

In exophthalmic goitre, while the gland may be so large that "goitre heart" may exist, the usual heart symptoms are nervous or toxic—"exophthalmic goitre is a manifestation of a hormonal imbalance" (Marine). Exophthalmos is a late symptom and is present in but one-third of the cases of exophthalmic goitre, despite the name exophthalmic. Colloid goitre represents a terminal or resting stage. Colloid goitre is always present in cured cases of exophthalmic goitre, and can be induced by iodine administration.

Inflammations of the thyroid, such as tuberculosis of the thyroid and acute bacterial thyroiditis, do not exhibit thyrotoxicosis, whereas the special kind of inflammation designated as Riedel's struma may exhibit either toxic symptoms or myxedema.

Simple goitre is classed as a compensatory hypertrophy and hyperplasia. It is preventable by the administration of iodine. Its onset is gradual. It usually follows exhaustion states, such as pregnancy, infections, improper diet. enlarged tonsils and adenoids, and at first may not be suspected. At such times the basal metabolic rate will be low. In this stage, the changes are hyperplastic. Remissions and exacerbations in simple goitre may lead ultimately to the development of nodules, the origin of adenomata. Adenomata develop in the secondary stages of simple goitre, before the onset of exophthalmic goitre, according to pathologists. Only a small percentage of adenomatous goitres develop symptoms of exophthalmic goitre, and these symptoms when they do develop, arise almost always from the remainder of the gland rather than from the neoplasm itself. The non-adenomatous tissue may be in any stage of involution or hyperplasia. Adenomata are the bases of 90% of thyroid cancer. They are best treated by removal because of serious changes, such as cancer, cyst formation and hemorrhage, that may otherwise ensue.

The basal metabolism test is of great value in the diagnosis of goitre, but is not in itself the sole foundation for operation.

A New Concept of Cancer: Cause and Cure*

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THE BIG PROBLEM in cancer is to locate the beginning of the disease, early in the history of the patient, before the mushroom growths we know as cancer have developed. This condition that we call cancer is the terminal stage of the disease. Where shall we find the beginning? As a result of study and treatment I am of the opinion that cancer is an iron-deficiency disease and can be cured by the administration of iron, preferably ferrous sulphate. It is not as easy as it sounds in that statement. The longer the disease has existed, the more difficult it is to cure. The tumor stage is quite resistant to the administration of iron. In fact, Dr. Russell Haden (in Surgical Clinics of North America, October, 1939) says the presence of cancer prevents the body from making use of iron administered. My patient, S. T., case 2, reported herein, bears out that statement. Haden also says that after the removal of the cancer the corpuscles can then take up the iron.

How does cancer begin? Cancer begins with vague disturbances for which no cause can be positively determined, and runs on, year after year, while the patient goes from doctor to clinic and from clinic to doctor, trying to find someone to grasp the situation and cure the difficulty. Many patients who are found in this category are the beginning cancer cases.

In some patients (those who develop abdominal cancer) vague abdominal discomfort is an early complaint. The gastro-intestinal tract is examined and studied. Indigestion, loss of appetite, decomposition of food, sick feeling in the stomach, constipation, abdominal distention, fecal impaction, bearing-down distress, are included among the complaints.

Frequently there is actual pain in the abdomen. Later, more or less continuous pain is present just below the ribs, extending across the abdomen, usually in the areas of stomach, liver and gallbladder.

These cases are now being treated for the symptoms of which they complain, such as indigestion, constipation, gallbladder disease, etc.

Skin cancer shows as a scaling keratosis as a brown spot. There is a thickened, reddened spot or pink nodule in some cases. This grows slowly and finally ulcerates. The ulcer is shallow and the base indurated. This lesion is painless. Metastases occur. It also spreads in the dermis.

Leucoplakia of the lips and mouth are frequently the beginnings of the outbreak in those areas. On the tongue the areas become thickened, warty and eroded. Enlargement of the cervical lymph glands occurs.

The Plummer-Vinson syndrome concerns cancer of the neck and will be discussed later.

Cancer of the lung is mentioned by Scupham. This also will be discussed later.

Cancer of the breast follows prolonged low hemoglobin and the development of the lumps in the breast which progressively enlarge.

Leucoplakic areas may be found in the vagina preceding the development of vaginal cancer.

In the bladder hematuria may occur. Later leather-like consistency is detectible, found by palpation over the pubis. This condition is preceded by bladder discomfort, with symptoms of cystitis. The usual treatment for cystitis does not help the patient with this condition. The doctor is puzzled then as to how to treat the bladder until he palpates the leatheroid bladder wall or else finds growths.

In the testicle painless enlargement may be found.

On the penis there may be an open sore, mole or bleeding wart.

I began the study of cancer two years ago, when I had a patient, whose history I shall give later. I also had a relative in another city afflicted with it at the same time. I therefore had the subject continually before me, and it gave rise to a multitude of thoughts on the why and wherefore.

In the spring of 1938, this relative in a distant town was treated by x-ray for cancer. I called to see him frequently. In the fall, about

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*Read before the North Branch of the Philadelphia County Medical Society, May 16, 1940.

October of that year, while riding home after visiting him, I wondered why we have so much cancer today: so much more than formerly. I wondered if, in the past, we had been giving some remedy that cured the patients and prevented cancer, and were not using it so much today. So I thought of iron, which was used much, 25 years ago, but not as much now, and of ferrous sulphate as the preferred form. Why ferrous sulphate? Most persons need some sulphur in their system, and the consensus of opinion seems to be that ferrous sulphate is the best iron salt to use. So I began using it on patients, with the results shown in the following case reports:

CASE 1

A. M. Age 66, average build.

On May 23, 1938, sent for me and said she has had vaginal bleeding since August, 1937, a period of ten months. The bleeding has been quite profuse lately. She seemed almost exsanguinated. I prescribed ergotrate t.i.d. and sulfanilamide, 10 grains t.i.d. The ergotrate stopped the bleeding after several weeks' use. I was of the opinion that cancer was bacterial in origin, but the sulfanilamide had no beneficial effect and I discontinued it.

On June 16 examination disclosed an enlarged uterus. She was referred to the Jeanes Hospital. On August 12, 1938, Dr. Teahan wrote me as follows:

"Microscopically the tumor is a highly malignant adenocarcinoma." She was treated at the Jeanes Hospital and returned home for a while. She reported to the Jeanes Hospital at intervals for examination and treatment.

On August 26 she complained to me of pain in the rectum. The anal area was sore to pressure. Interior of rectum did not pain. On September 9 glycerite of tannin was applied to anus, for ulceration. On September 16 she was dizzy, weak, and passing blood by rectum. Kaopectinate was prescribed.

I then tried another remedy to control the cancer. I prescribed hormotone without post-pituitary and quinine and urea hydrochloride. So at least some hormones are not particularly valuable in this disease. Perhaps I should have used the hormotone for a longer time.

On November 11 iodized calcium, ½ grain, and ferrous sulphate 5 grains, was given in capsule three times a day. She took this until she returned to Jeanes Hospital, where on December 3, 1938, hysterectomy was performed. I saw the uterus after the excision. The cervix was the only part that showed any disease. The body of the uterus showed no sign of cancer.

Dr. Wammock, of the Jeanes Hospital, wrote me as follows, on December 30, 1938:

"Mrs.———— was discharged from the hospital on 12/23/38 after an uneventful recovery from a panhysterectomy which was performed on 12/3/38. The histological examination of the uterine specimen did not show any evidence of carcinoma and this should give a very favorable prognosis."

I would not claim that the remarkable change was due to the ferrous sulphate. The radium and x-ray treatment had positively good effects. But I felt encouraged to continue the treatment of any further cases that might come to me.

The patient returned to the hospital 10 months later with inoperable carcinoma of a rib below left breast, showing that metastases had spread beyond the scene of the area treated by the x-ray, radium and hysterectomy.

Another case, not treated surgically, carries out the idea much better.

CASE 2

S. T., aged 76, short and thin, came for treatment on April 11, 1939. She complained of having had bearing-down distress in abdomen for many years. Now has sick feeling in stomach. Was treated for piles two years ago. She is a poor sleeper. Wakes up early; then gets sleepy in daytime. Constipated. Takes pills. Eats nearly everything. Blood pressure 160/84. Pulse, 82.

She presented the characteristic appearance of abdominal cancer. Her abdomen was highly puffed, the skin was stretched taut, bluish in color, glazed and edematous, and tender to touch. She weighed 87½ pounds.

Cases like this I used to send to hospital for operation, and some of them died in a few weeks. I diagnosed the condition as cancer in stomach, gallbladder, and liver, with metastases throughout the mesenteric glands. I had seen similar cases that later were autopsied, and some that demonstrated cancer at operation.

She was given HCl, eserine, and elixir peptenzyme for digestive system, Pill A.B.S. & C. for constipation, and bromides for sleep.

Along with general treatment, ferrous sulphate, 5 grains, 3 times a day was given. She is still taking the ferrous sulphate. Vitamins were also given her at times.

The abdomen soon began to improve. The distension decreased, the pink color gradually returned, and glazed skin gave place to normal appearance, and the edema remained long after the other symptoms were cleared up, but finally disappeared. She still has a small amount of distension in lower abdomen; but it is gas in the intestines.

On the first test her hemoglobin was 80. Seven months later it was still 80, showing the difficulty of improving the Hb content as stated by Russell Haden.

The lady who referred her to me said that formerly her clothes were placed around her room in more or less disorder, before treatment; but after a few months' treatment she kept her room in good order.

Her only complaint now is some neuritis, which is being treated. So that in spite of the failure to improve her Hb content, she made progressive improvement in her symptoms and condition.

Case 3

J. D., short, but not thin. At age 25 (in 1930) gave her weight as 100 pounds. Had no gain in weight in the preceding 10 years.

Complained of weakness, fickle appetite, indigestion. Main complaint: pain in abdomen.

In May, 1937, at Jefferson Hospital where she went on account of the abdominal pain, had an examination, which showed: hemoglobin 74, erythrocytes 3,700,000, leucocytes 7400. Wassermann and Kahn negative. The diagnosis of her trouble concluded that there was chronic gallbladder disease.

On December 17, 1938, she complained to me of pain in left chest and abdomen, swelling of abdomen, easily tired, and got out of breath. She was given sulfanilamide, 5 grains, 3 times a day, and ferrous sulphate and calcium iodized, 3 times a day. She had albumin in her urine and was put on a vegetable diet. She later admitted that she did not adhere any too well to her diet.

On November 16, 1939, she returned with an enormously swollen pancreas, which was exceedingly painful, especially on efforts to palpate and delimit it. She said she was stiff in hands, shoulders, body, etc., and also ached.

She said her abdominal illness began with abdominal flue in 1918, and she had had trouble in abdomen ever since. Hb 60. In 2½ years the Hb had fallen from 74 to 60. Ferrous sulphate was administered 3 times a day without the iodized calcium.

On November 28 the abdomen was less swollen. Several masses were felt below pancreas. Pancreas less tender. Said lower masses were worse (more painful). Urine was 1032, amphoteric in reaction, no albumin, no sugar. I anticipated diabetes from the pancreatic inflammation, but it did not occur. The pancreas slowly resolved, and the specific gravity dropped down to normal figures.

She is much improved and continuing the treatment with 5 grains of ferrous sulphate three times a day. Her treatment leads to the suggestion that ferrous sulphate might cure a diseased pancreas in diabetes.

Case 4

H. B., aged 85, tall and thin. Left breast enlarged to size of large orange, ulcerated and bleeding. Hb 20. Said the breast trouble had been coming on for 17 years. She was given ferrous sulphate, 5 grains three times a day. In the course of a month the ulcers were healing on the surface of the breast. She is discouraged, but is still taking the medicine.

I no longer use the iodized calcium in these cases. No doubt, many patients need iodine; but I tried out the iron alone, and believe it is the main agent in this disease. No doubt, these patients need all the elements and vitamins, and I believe they would be helpful and not harmful.

Case 5

C. H., 65. On December 13, 1939, stomach had been bad for week, had pain in ear, hard of hearing. There was inflammation of the right aural canal, with a bloody mass present, and a similar condition in right nostril. Prostigmin was injected for the deafness, and ferrous sulphate given for the bleeding masses. His hemoglobin showed 60.

On December 4, the ear was improved, and no further bleeding from the nose since the previous visit. On December 12, there was still some blood in right aural canal. None in nose. On December 14, there was some blood in the nose. On December 27, there was blood in left nostril. No blood found thereafter.

I think this is a precancerous case. He is still taking ferrous sulphate. His bloody masses in nose and ear made me suspect beginning cancer.

The Plummer-Vinson syndrome, described in J. A. M. A., November 11, 1939, p. 1814, concerns patients with "hypochromic anemia, with or without achlorhydria, dysphagia, and chronic inflammatory changes in the mouth.

pharynx, and upper end of the esophagus. According to Ahlbom at Radiumhemmet in Stockholm, the syndrome brings with it a special liability to cancer in those structures. As a rule, the afflicted women are poorly developed and poorly nourished; weakness and anemia may have existed for years. . . . Iron in large doses leads to improvement; even to apparently complete recovery; only too frequently the anemia returns and the dysphagia may become more or less continuous for years."

The answer to this is to continue the iron treatment, even after apparent recovery.

Concerning cancer of the lung, G. W. Scupham, said: "Whenever pulmonary symptoms, particularly dyspnea and pain, are out of proportion in their severity to x-ray or physical findings, bronchiogenic carcinoma is likely." (J. A. M. A., December 10, 1939, p. 2398). In this quotation is shown the uncertain condition in which cancer is found. You rule out everything else, and then you diagnose cancer. The hemoglobin test will be a striking point in conjunction with these symptoms. And the iron medication improves the patient and, at least in some cases, not the hemoglobin content.

The Bulletin of Practical Ophthalmology for January, 1940, p. 23, records an epithelioma of the tongue. The writer says: "This man, who was aware of the presence of leucoplakia 20 years ago, faithfully went to have it treated with the cautery and caustics." The writer indicates that he considers the leucoplakia a precancerous condition. I believe he is right.

SUMMARY

Cancer is a long-lived disease. It begins insidiously. Fugacious pains, not accountable in our ideas of specific pathology, are more or less in evidence.

In my view the beginning is a deficiency of iron, as shown by the hemoglobin test. The Tallquist color test is a good guide.

All the patients I have seen have a marked deficiency of hemoglobin, ranging from 70% to 40% and one showed 20%.

In the cases of cancer where you find tumor growth, you will probably encounter metastases. I believe they are present in all such cases, for the anemia is necessarily present throughout the body. Removing the visible part does not cure the disease, for metastases later take off the patient. Metastases, as you know, may occur in any tissues and in any part of the body.

The diagnosis rests on finding pain, aches, disturbances, ill feeling, dysfunction, indigestion, constipation, lowered Hb, in patients whose symptoms are not otherwise explainable. Should this state continue long enough, the condition we call cancer sets in. How many years that requires cannot, at this time, be stated.

One of the first things to do, then, is to make a hemoglobin test. The earliest forerunner of cancer is a lowered hemoglobin in the body. Then supply iron in sufficient quantity and proper condition to bring up the hemoglobin to normal, and you prevent cancer. No doubt, a small amount of copper should be administered, which makes the iron in the blood more easily taken up by the hemoglobin.

In any event, even in late stages, administer ferrous sulphate. If the disease has not gone too far, you should cure the patient. Tonics and vitamins are needed to bolster up the ailing body, and should be vigorously given.

Cancer favors the women because they lose so much blood and their hemoglobin drops. They should all be taking ferrous sulphate.

If all persons with deficient hemoglobin are promptly given ferrous sulphate—and other remedies as needed—there should be no more cancer.

Primarily the iron deficiency is due to a lack of iron in the diet. When the hemoglobin is reduced, however, pharmaceutical iron must be administered to make up the deficiency. Attempts to cure cancer with diet alone would fail.

The best hope in these cases is in discovering the precancerous condition. Making the hemoglobin test is the first thing to do. With a deficiency of hemoglobin the patient is at least in the danger zone and appropriate treatment with ferrous sulphate should be given. Long continued deficiency of hemoglobin calls for prompt and vigorous action. The beginning of the various symptoms of illness described in connection with the cases reported and of other symptoms for which no definite cause can be assigned demands iron, vitamins, digestive remedies and other supportive measures. The persistent low hemoglobin record, improved little or none by administration of iron, is found in late stages as shown by Russell Haden and the case of S. T., described herein.

Then cancer can be prevented and in some cases cured. When the terminal stage attacks and destroys some vital organ or organs, the outlook is most serious. Only some points in the life history of cancer are described here, and much work remains to be done in this line of investigation.

Sterility Study

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WITH THE large number of married women not wanting children and seeking some contraceptive methods, there is a tendency for us physicians to overlook the great number of childless marriages of those who are extremely anxious for offspring and seeking our help.

Complete diagnostic studies show that the average couple without children presents 4.79 factors, each of which diminishes to some extent their capacity for conception. But such factors of absolute sterility, as it may be called, are found in only 30% of clinical cases. Seventy per cent of couples who apply for the relief of childlessness show no single condition alone that would account for their difficulty. They do show, without exception, a group of causative factors of which each one lowers his or her fertility to some extent and of which the sum total depresses fertility below the threshold of conception.

The multiple factors discussed are partly genital and partly constitutional.

Meeker[1] and associates found that among the couples who consult them only about 10% of the husbands and 5% of the wives are free from all objectively demonstrable evidence of infertility.

For the purpose of quantitative estimation, his clinic has used for ten years a measurement which they call the uterine index. This is an expression of the ratio between the length of the uterine body and the length of the cervix; the relation is 0.25 in infantile cases and 0.75 or more in cases which normal development has been attained.

In the more obscure detail in every case of sterility, is the question of effective ovulation. No method of examination has ever been sufficient to determine whether or not the ovaries actually liberate mature and normal eggs. Menstruation obviously proves nothing in this respect; some women flow regularly without complete follicular activity in their ovaries, while others conceive even during times of amenorrhea.

As to whether ovulation is taking place we find that the endometrial biopsy taken twenty-four to forty-eight hours before the expected time of the flow proves of great value and will aid us in determining whether the endometrium is in the secretory phase, if ovulation has taken place, (which comes about the fourteenth day of the menstrual cycle). If ovulation has not taken place we do not expect to find the endometrium in the secretory phase.

No study of sterility cases is complete until a metabolism is done on the husband and the semen studied, and with the female we should do a metabolism, complete blood examination and a Rubin test to determine if the tubes are patent. This along with the other pelvic conditions should all be corrected in the early part of the treatment.

Hotchkiss[2] method of sperm analysis and evaluation of therapeutic procedures has contributed a very great deal in the study of sterility. From biblical times until the present century the wife has borne the burden of blame for failure to produce offspring.

Until twenty years ago no serious studies of male fertility had been undertaken. It is generally agreed now that the husband bears the chief or partial responsibility in approximately one-fourth of the involuntary barren marriages and accordingly his examination is now regarded to be as important as that of his wife.

In the study of infertility it is not only to detect absolute sterility but rather to arrive at an estimation of the relative fertility of each partner, each to be considered separately and together as a marital unit. The power of production depends on the sum total of the details of the germ plasm, the physical status of the subjects and their ability to have coitus. If the combination of these factors is below "the threshold level for fertility" no issue will result from the marriage even though each constituent may possess varying positive degrees of fecundity.

In making his studies Hotchkiss used a routine such as follows:

(1) The average volume of the ejaculate is

from 3 to 4 cc. Variations from one or two drops to 10 cc. are encountered. Specimens of less than 0.5 cc. in amount fail to produce an adequate seminal pool, which ordinarily provides a medium for the survival and protection of the sensitive sperm.

(2) The appearance and viscosity of the fresh ejaculate is entirely different from that one-half hour old. Self liquefaction is then completed much to the benefit of motility of the sperm. If the eventual motility is of a good grade it is likely that variations in viscosity have little or no clinical significance.

(3) The pH of a seminal usually falls within the range of from 7.7 to 8.5. If no motility is found it is of particular importance to obtain a pH determination, for in rare instances a shift to a low reading of 6.0 and 6.2 has been found to be associated with necrospermia.

(4) It is extremely difficult to give a word picture of the description of the motility of the spermatozoa. The type of activity, the number crossing a microscopic field and the percentage of inactive cells are all details of interest. Interval examinations are made to determine the viability of the sperm, which is usually about 24 hours at room temperature.

(5) The number of spermatozoa is determined by the use of the usual equipment for counting blood cells. A sodium bicarbonate-phenol solution is used as a diluent; it destroys motility to permit an accurate estimation of the cells present in each cubic centimeter and in the total ejaculate. The average fertile male will produce from 100,000,000 to 150,000,000 spermatozoa per cubic centimeter or from 400,000,000 to 500,000,000 in the total ejaculate. One group of eminent authorities state that in their experience pregnancy does not occur if the cell count is below 60,000,000 per cubic centimeter. The bulk of semen undoubtedly originates in the prostate and seminal vesicles, and variations in the amounts of these secretions will accordingly dilute or concentrate the specimen. In the former instances an apparent deficiency may be inferred if the cell count is expressed in cubic centimeters, whereas the number of sperms in the total ejaculate may prove to be normal. Here, as elsewhere, dogmatic rules are dangerous and it is unlikely that any figure can be decided on as a fixed minimum. When fewer sperm are found, the chance of fertilization is mathematically and proportionately reduced until a theoretical point is reached at which impregnation is most unlikely. A simile may be found by comparison with the laws of chance as it affects a hunter shooting at a difficult target with a shotgun; his chances of hitting the object are enormously reduced if the shell is loaded with ten shot rather than with 125 of the same size and weight.

(6) The examiner must be familiar with the variations in the morphology of the spermatozoa just as the hematologist is conversant with blood cytology. A stained smear is prepared and the percentage of atypical cells is established by count. If some of the more complicated stains are not available, the Gram stain gives a fair visualization of the cell structure after proper fixation.

There are many phases to be considered in the sterility study. One of these in particular is the gonadotropic substance which is purported to act on the ovary, stimulating ovulation, etc. Caution is advisable in anticipating or predicting results from the administration of endocrine products. These may be striking in some instances and yet entirely lacking in other apparently similar cases.

We should never overlook the part that the thyroid plays, not only in the fertility of the female and male but the effect that it has on cases of early abortion which may be due to the fault of the sperm or egg as if it were faulty fruit falling away in the early period of development.

Diet also plays a great part in these individuals. Many advocate wheat germ oil, green vegetables, etc., which carry the vitamins with them.

I am giving you the following somewhat as a guide in the study which has been compiled admirably by Dr. Eugene L. Lowenberg[3]:

I. SPECIAL LABORATORY TESTS:
   1. Complete blood count, sedimentation rate.
   2. Urinalysis, Wassermann.
   3. Hanging drop for trichomona vaginalis.
   4. Stained smear of vaginal and cervical discharge.
   5. Reaction of vaginal and cervical secretions.
   6. Viscosity of aspirated cervical mucus.
   7. B. M. R. Glucose tolerance test.

II. POST-COITAL EXAMINATION (Tuehner Test).
   1. Vaginal pool (one to one and one-half hours after coitus).
      A. Amount.
      B. Spermatozoa.
         a. Number-spermatozoa count.

b. Morphology-stained smear.
c. Motility.
2. Aspirated cervical mucus.
A. Spermatozoa.
a. Number.
b. Motility
B. Pus Cells.
C. Tenacity of mucus.

III. CONDON OR EJACULATE:
1. Interval between coitus and examination.
2. Spermatozoa.
A. Number-spermatozoa count.
B. Motility
C. Morphology-stained smear.
D. Per cent of abnormal forms.
3. Pus Cells.

IV. TUBAL PATENCY TEST:
1. Rubin test.
A. Carbon dioxide gas or air.
B. With antispasmodic drugs.
2. Repeated patency tests.

V. UTEROSALPINGOGRAPHY WITH IODIZED OIL-MODIFICATION:
1. Roentgenography with pneumoperitoneum combined with utero-tubal iodized oil instillation.
2. Contrast hysterography with iodized oil and carbon dioxide injection.

VI. ENDOMETRIAL BIOPSY.

VII. BLOOD AND URINE HORMONE STUDIES:
1. Blood estrogen assay.
2. Urine gonadotropic hormone.
3. Urine pregnandiol.

TREATMENT IN STERILITY

Endocrine:
A. Thyroid.
B. Estrogenic therapy.
C. Gonadotropic pre-pituitary hormone.
D. Gonadotropic hormone from pituitary gland.
E. Gonadotropic hormone of pregnant mare's serum.
Alkaline douche.
Tubal insufflation.
Irradiation.
Vitamin "E"
Insulin.
Stem pessary.
Artificial insemination.
Coitus during menstruation
Iodized oil injections
Elliot treatments or pelvic diathermy.
Combined tubal insufflation and pelvic diathermy or Elliot treatments.
Vaginal pessary.
Irradiation of vaginal infection.
A. Trichomona vaginalis
Irradiation of cervical infection.
A. Removal of cervical polyp.
B. Conization.
C. Cauterization.
Laparotomy for some plastic operation.

CONCLUSIONS:

1. There are many more males in fault in couples than is thought of ordinarily.

2. For proper study of sterility cases nothing short of the general study with special technique should be made.

3. No minor abnormality should be overlooked, for frequently these are the factors that cause the patient to conceive or not conceive.

4. Doubtless many cases of abortion occur as result of abnormal sperm or ova, which have been fertilized but not able to continue growth and development.

5. All sterility cases should be studied as individuals with the utmost care as to details.

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The Modified Barraquer Suction Extraction of Cataracts*

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CATARACT extraction and corneal transplants have been of greatest interest to me since medical study has led me deep enough to appreciate their values. I have read all the literature at my disposal on each subject and have witnessed the results of several very successful transplants. My paper, however, deals with my limited personal experiences with the Barraquer method of suction extraction of cataract. Dr. Lucien S. Gaudet, my associate, and I always work together as a team in this operation.

Suction extraction of cataracts dates back as far as 1940 when Dr. Von Heulen, of Texas, presented his paper on vacuum fixation of the lens and flap suture in the extraction of a cataract in its capsule. His method consisted of a demijohn as his suction bottle. G. C. Savage in 1922 stated. "The Heulen operation, if an apparatus could be devised that was not clumsy, would be ideal." There have been many modifications of this operation using various techniques. Dr. T. J. Dimitry, of New Orleans, Louisiana, devised a sucking disc with a Luer Lok syringe attachment. This instrument greatly cuts down needless apparatus. The Barraquer method of suction extraction originated in Barcelona, Spain, about twenty or twenty-five years ago. Throughout the past fifteen years the technique has been modified by Barraquer, Green, Nugent, Wolfe, and Fisher.

TECHNIQUE OF MODIFIED BARRAQUER SUCTION EXTRACTION

The eye is prepared with drops of 2% atropine and later followed by 10% cocain and adrenalin. The cocain and adrenalin are used at five-minute intervals starting thirty minutes before the patient is brought to the operating room. This serves a double purpose: anesthesia for the field of operation, and dilation of the pupil. The old method was to use 5% cocain because a 10% solution was thought to cause desquamation of the cornea. This, however, has been found to be untrue.

The patient is placed upon the table, the head draped and the field prepared. Cocain and adrenalin drops are continued for several times while the patient is on the operating table. This procedure permits the subject to become adjusted to the strangeness of the operating room and to compose himself. The obicularis oculi is inhibited by extra-ocular injections of 2% novocain. This is done by making a small subcutaneous injection at a point about 1 cm. lateral to the outer canthus of the eye on the temporal rim of the orbit. Following this a long needle is inserted deep within the orbital cavity, staying close to the bony wall, and the novocain is slowly injected.

The lids are separated and held back by the lid retractor. The eye ball is held stationary by the assistant who firmly grasps the bulbar conjunctiva 5mm. below the cornea with small forceps. The corneal puncture is made 1 mm. above the horizontal diameter of the cornea. The knife should enter the cornea in the direction of its radius of curvature, the blade then being turned parallel to the iris. The incision is made by a see-saw motion upward and backward toward the sclera finishing with a large conjunctival flap that is not completely severed until sutures have been placed in position for tying. The sutures are placed one on either side of the flap and anchored to the bulbar conjunctiva. The flap is lifted with a hook and completely severed at the tip. The flap is now elevated by the assistant. This exposes one-third of the iris and permits the operator to grasp it at any portion with full view of the field.

The iridectomy is made by grasping the iris with small forceps and cutting it with De Wecker scissors.

Now the field is ready for the suction tip provided there is no hemorrhage in the anterior chamber. If blood is present it is diligently washed away with a small syringe. The tip we use for lens extraction is Green's modification of the Barraquer instrument. This tip, which is so constructed as not to damage the eye, is placed on the inferior margin of the lens, being careful not to catch the iris. The operator must be sure that the tip is held gently but firmly against the lens surface, because of the slight danger of producing a backward displacement of the lens into the vitreous. When the instrument is properly placed the suction machine is turned on. This machine must be so regulated as to create a vacuum of twenty-five to twenty-seven inches of mercury. A very gentle zig-zag motion is employed to break the zonules away from the suspensory ligaments. A very slight upward tug made by the surgeon indicates whether this has been accomplished. After the zonules have been separated the lens is carefully and slowly turned so that the posterior surface is now anterior and the portion with the tip attached is posterior. This is done in all cases except when the patient is restless and unduly nervous. In this event the lens is extracted as it lies in its natural position. By lifting very gently, the lens with the capsule is delivered through the corneal incision. During the entire procedure the flap has been held up by the assistant. The toilet of the iris, a very important maneuver, is carefully attended; the sutures are tied firmly and the operation is completed.

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*Read before the Section on Eye, Ear, Nose and Throat at the Mississippi State Medical Association, May, 1940.

The next steps are routine measures to lessen the chance of infection. Any accepted method is satisfactory. We prefer bichloride ointment 1:3000. The eye is bandaged and no further treatment is instituted for 48 hours when the bandage is removed and the eye is irrigated with 10% argyrol and a solution of boric acid. Two per cent atropine is instilled, followed by the bichloride ointment and a bandage reapplied. This same procedure is carried out each forty-eight hours until four separate dressings have been applied.

The sutures do not have to be removed if they were tied tightly at the time of operation. Tie them firmly and they will cut themselves out.

We tried the suction extraction method on one hundred hog eyes before attempting the operation on the human. Our series is very small but the results to date have been gratifying. There is usually no need for secondary operations when the modified Barraquer method is employed unless the capsule ruptures before extraction of the lens. This should not happen if care in delivery is given paramount consideration.

The machine we have devised is an inexpensive portable unit with adjustable screws for regulation of mm. of mercury tension. A foot switch enables the operator to start or stop the machine at will. We tried several types of machines, experimenting with tensions from 15 mm. up to 28 mm. but found less than 20 to be sufficient*.

CASE REPORTS

The following are brief histories of the cases we have handled by the suction extraction technique.

1. W. R. White male. Age 59. Operated April 5, 1938. April 7, 1938, removed bandage, noticed a small plug of iris at upper margin of incision. The stout sutures prevented any serious results. Pupil clear. On May 10, 1938, iris plug had disappeared, pupil clear, vessels of retina seen distinctly.

2. B. F. White female. Age 74. Operated April 26, 1938. Recovery uneventful.

3. M. P. Colored female. Age 65. This patient had a slight increased intraocular pressure. I mention this because in former days this complication would have been considered by some as a contraindication to surgery because of fear of rupture of hyaline membrane and loss of vitreous. This patient was operated April 28, 1938. There was no loss of vitreous, no after infection and no undue pain. On May 13, a small stain from hemorrhage was seen on hyaline membrane. This has been absorbed since. The pupil is very clear and the final results satisfactory.

4. J. M. C. White female. Age 79. Operated October 12, 1938. A virulent infection of undetermined origin occurred in the operated eye forty-eight hours following cataract extraction. Prontylin and prontosil were given. The final results are very unsatisfactory. There is now present some shrinkage of bulb, degeneration of the iris and bulging of wound.

5. K. C. B. White female. Age 43. Traumatic cataract right eye. Operated January 3, 1939. Patient had a heart attack several days after operation. Small amount of exudate found in anterior chamber. End results fairly satisfactory.

6. L. M. Colored female. Age 80. Mature cataract right eye complicated by very large pterygium. Cataract removed November 6,

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*Since writing this paper my observations have led me to believe that it is perhaps better to deliver the lens in its natural position rather than attempt to make the turn described in the foregoing technique.

1938. Recovery uneventful. Pterygium removed from same eye January 10, 1939. Final results very good.

7. L. C. L. White male. Age 68. Mature cataract right eye. Operated September 23, 1938. Recovery uneventful.

8. W. B. Colored male. Age 70. Right eye operated June 13, 1939. Recovery uneventful.

9. E. W. Colored male. Age 21. Juvenile cataract each eye. Right eye operated October 20, 1939. Patient unco-operative. Results only fair.

10. L. D. P. White male. Operated April 5, 1940. Had serious vomiting attack following operation. No damage to eye. Results satisfactory. (No suture taken.)

Discussion

Dr. A. G. Wilde (Jackson): Since Daviel demonstrated in 1745 that an opaque lens could be removed from the eye, thus clearing the pupil sufficiently to restore serviceable vision, constant efforts have been made to render the attempt easier for the operator, and safer for the patient.

Today we see three procedures, all aimed at these ends, but involving quite different technics: 1. The ancient depression of the lens into the vitreous, referred to as "couching" (This is still practiced in some portions of Asia, usually with disastrous results); 2. An incision in the lens capsule, whereby the solvent action of the aqueous can be exerted on the lens substance and bring about its gradual disappearance; 3. The total extraction of the lens, either within or without its capsule.

Most of the fires of controversy today rage about the intravenous extracapsular extraction. In a large series of cases, the average visual results are about the same. Which is chosen is for the operator to decide, having in mind but one question, i.e. "What procedure in my hands is most likely to produce the best visual results for my patients?"

Personally, I prefer as a routine, the extracapsular extraction, in accordance with the Meller technic. Such few intracapsular extractions as I do, are after the Elsching forcep method.

There is no doubt that the total, or intracapsular extraction, after its successful accomplishment, will yield results that are quite ideal. A clear pupil is immediately produced, and the postoperative reaction time is shorter and of less degree.

Impelled by these desirable factors, many procedures to accomplish them have been practiced. That on the largest scale is the total expression as practiced by Colonel Henry Smith, who is supposed to have thus operated 60,000 cases. That figure will probably stand as a record from now on.

While on the staff of the Eye and Ear Infirmary of the Massachusetts General Hospital, I had an opportunity to observe Colonel Smith operate, and then follow these cases to their ultimate results. We were struck not only with his skill, but amazed at his speed. With a cigar firmly between his teeth, a quick thrust with his own cataract knife completed the section before we, with mouths agape, were fully aware he had started.

An equally quick grab and snip produced the broad iridectomy above. Then with a strabismus hook in each hand, he depressed the upper limbus, and at the same time the lower half of the cornea to an amazing extent, and out would pop the cataract, along with a variable amount of vitreous. From then on it was no puzzle to us how he did thirty to forty cataracts a morning, warming up as it were for his general surgery of the day.

The convalescence of these patients was quite stormy. Likewise, the average visual results were inferior to those attained by our own staff operators. We thus felt free to admit that this method, while thrilling to witness as an observer, from the standpoint of the patient left something to be desired.

Likewise, Prof. Barraquer demonstrated his method of suction extraction, in which I was also privileged to participate. Here again his idea was excellent, but due as I saw it to the difficulty of manipulating his apparatus, the results in the main were not favorable.

The idea of lens extraction by means of a vacuum cup is so intriguing, that various modifications by way of improvement have been made, such as Dr. Geisenberger has so well described. With these I have had no personal experience. It always struck me that the most objectionable portion of the vacuum technic is the manipulation necessary in the intraocular rotation of the lens. This Dr. Geisenberger has also concluded, as he states he has abandoned the maneuvre. This will probably result in higher average visions.

The visual results of Dr. Geisenberger's cases are not recorded, and that, after all, is the only thing contemplated by the patient. A corrected vision of at least 20/30 can be regarded as a perfect result.

Of intracapsular extractions in general the same is probably true, as in the case of that very famous little girl, who came equipped "with a curl in the middle of the forehead. When she is good she is very very good, but when she is bad she is horrid."

The only consideration in all cataract extractions is so clearing the pupil as to insure the eye functioning as completely as its perceptive elements are capable. Many factors may interfere with this objective, both within and without one's control. No operator whatever his technic, will invariably have perfect results through a long series of cases.

We should therefore not fail to be candid with our patients. Carefully explain that a cataract extraction is a major procedure, and into which a certain amount of jeopardy will enter, and must be accepted. All operative techniques are designed to decrease this coefficient of operative risk. I never fail to tell my patients that a non-seeing eye is a useless eye. As operation does not involve a threat to life, he has everything to gain, and nothing to lose. It is a mistake blindly to assure the patient and especially his family and friends that the operation amounts to nothing and results are certain to be brilliant. I have seen some of the world's most famous humbled by a postoperative survey of their work. I would therefore counsel a certain diffidence in prognosis, allowing the patient to rejoice at receiving more than expected, rather than be crushed by less than promised.

DR. H. H. JOHNSTON (Vicksburg): I found Dr. Geisenberger's paper very interesting. It would seem that there are not enough intracapsular cataract extractions being done. However, from my observation the technique would have to be improved and simplified before it would be practicable for the average surgeon.

Although my experience has been limited, I feel the complicated and expensive apparatus will prove a detriment to its general use. The Green modification of the Barraquer instrument seems to be a step in the right direction and a distinct advantage, since it is so constructed that there is less danger in average hands of damaging the eye.

The chief disadvantage in this method is that it requires a larger corneal incision, and necessarily slower healing. It was interesting to learn of a series of 100 cases as reported by Wolfe, in which there was no loss of vitreous.

May I compliment Dr. Geisenberger and Dr. Lucien Gaudet, his associate, on their teamwork. I'm sure their laboratory research in operating upon 100 hog eyes with the Barraquer suction method has been a help in both preventing and overcoming complications that arise at time of operation.

DR. GEISENBERGER (closing): I wish to thank these gentlemen for their illuminating and instructive remarks. Thank you.

Surgical Management of Goiter: Recent Advances*

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Numerous improvements have been made in the management of goiter in recent years, but none is so important as the introduction of iodine by Plummer as a preoperative measure. However, several of the advances if not revolutionary are at least helpful in diagnosis and management.

Goiter apparently is increasing in frequency in this part of the South. In two years' period, 1930 and 1931, two hundred and seventy-seven patients with goiter were admitted to the Charity Hospital in over 86,000 general admissions; one patient with goiter in every 312 admissions. In one year period, July, 1937, to July, 1938, there were over 55,000 general admissions including 248 patients with goiter or one goiter in 222 admissions. Some of this increase is real but a better acquaintance with the manifestations of the disease both by physicians and laity is resulting in earlier recognition of the atypical forms of goiter. The nodular enlargements of the thyroid are easily recognizable as a goiter even by non-professional people, but the mildly hyperthyroid or atypically hyperthyroid patient with no enlargement or very little enlargement of the gland may masquerade under incorrect diagnosis of chronic nervous exhaustion, cardiac disease, neuro-circulatory asthenia, etc. Enlargement of the thyroid gland may occur with or without systemic symptoms or hyperthyroidism may occur with or without enlargement of the thyroid gland. With the knowledge of this fact as a foundation some cases of toxic goiter with evident systemic symptoms but little manifestation by enlargement of the thyroid will not so easily be overlooked.

Among the most constant clinical manifestations of toxic thyroid is a rapid pulse, a pulse which is volatile, showing marked increase in frequency following the slightest physical or mental exertion. This, together with other clinical features, may leave little question of the diagnosis. Occasionally the clinical picture is not clear and in an attempt to make the diagnosis more certain, laboratory tests are called upon to help. In recent years a constant quest has gone on for a reliable test which not only will definitely distinguish true hyperthyroidism from the non-hyperthyroid patient in the clinically borderline cases, but which also will give an accurate evaluation of the degree of hyperthyroidism and a reliable estimate of the likelihood of postoperative hyperthyroid crisis, when hyperthyroidism is definitely present. Most of these tests have failed to meet the requirements or to approach in accuracy or dependability the basal metabolic rate determination. No test so far is as valuable as the clinical history and examination. Recently, Althausen, Lockhart and Soley, described a new test for hyperthyroidism which may prove equally as valuable as the basal metabolic rate determination. In using this test in a limited number of cases it has proved of value in determining the presence or absence of hyperthyroidism and to a certain extent in estimating its severity. Althausen believes it to be most valuable in differential diagnosis in cases with low-grade hyperthyroidism in which instance it may be proved to be positive even though the basal metabolic rate determination is below the upper limit of normal. The test is based upon the physiologic fact that absorption of sugars and other substances from the gastro-intestinal tract is more rapid in the hyperthyroid patient than in the normal individual. Galactose is converted into dextrose slowly by the liver. After the administration of forty grams of galactose in 400 cc. of water to the hyperthyroid patient galactose appears in the blood earlier (five minutes) and the blood galactose level reaches a higher peak than in the normal individual. The blood samples for determination of galactose concentration are taken before and at a half hour and at an hour intervals after administration of galactose. The peak concentration occurs at the end of an hour and in normal individuals values of ten to thirty milligrams per 100 cubic centimeters of blood are found. Values exceeding forty milligrams indicate hyperthyroidism and values below ten milligrams are abnormally low indicating hypothyroidism. The test is illustrated in the following case report:

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Mrs. C. D. W., aged twenty-nine, had been increasingly nervous for one year. She had noticed some enlargement of the thyroid gland palpitation rapid pulse, and in spite of an appetite better than normal, she had lost twelve pounds in weight. Recently she had regained four pounds.

Examination revealed a small extremely nervous woman. She performed many useless purposeful movements. There was slight exophthalmos. The thyroid gland was once and a half normal size. She had a marked tremor of the fingers. The pulse rate was 120 per minute; blood pressure 160 systolic, 100 diastolic. Basal metabolic rate determinations before admission to hospital were plus 68, plus 40 and plus 38. The basal metabolic rate determinations five days after admission to the hospital were plus 18 and plus 19. The Althausen galactose tolerance test the day after admission to the hospital showed 100 mgs. per cent in the thirty minute blood sample and 115 mgs. per cent in the sixty minute blood sample (normal 10 to 30 mgs. per cent). Seven days later the galactose tolerance test showed 64 mgs. per cent in the thirty minute sample and 80 mgs. per cent in the sixty minute blood sample. Thyroidectomy was done eleven days after admission to the hospital. Recovery followed.

The test is a helpful adjunct in following improvement in the stage of preoperative preparation. Once standardized it may indicate more accurately than the basal metabolic rate the probability of a postoperative reaction.

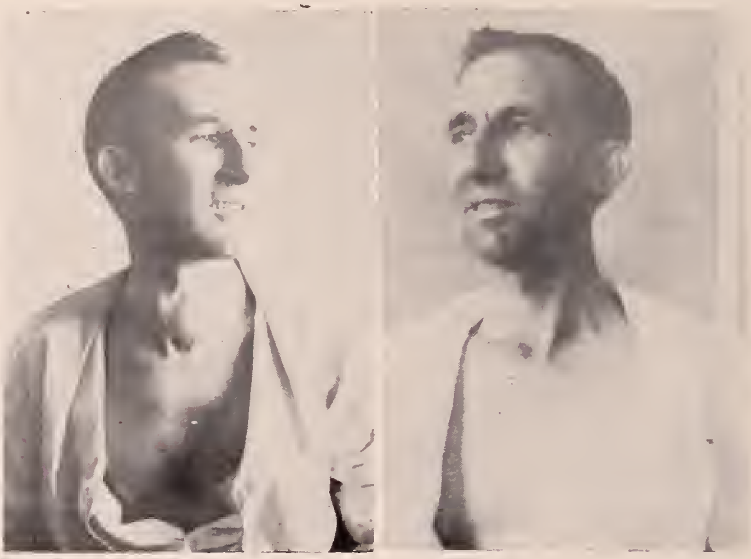

Fig. 1. Patient aged 34 before and after operation for a single nodule causing enlargement of the thyroid gland. There were no toxic symptoms. The lesion occupied part of the isthmus and the lower part of the left lobe. After removal it proved to be a benign adenoma. All single nodules, tumors, in the thyroid should be removed. They are true neoplasms. Usually benign they may be malignant. This danger does not apply to "nodular" goiters in which the roughness of the gland is due to retrogressive changes.

The blood iodine determination is not of practical value because of the extensive laboratory equipment required, the necessity of a specially sealed room and the difficulty of performing the test in addition to the large percentage of errors in any but expert hands. The blood iodine determination can be done by institutions in which large numbers of hyperthyroid patients are studied, but is not feasible for smaller institutions. The galactose test is performed without difficulty by any chemical laboratory and it is not expensive.

Among the tests used to evaluate the severity of the hyperthyroidism is one attempting to estimate the liver damage in the patient. Part of the basis for assuming that the state of the liver as determined by the liver function test is of value in estimating the degree of the toxicity and the danger of postoperative crisis is the assumption that deaths from hyperthyroid crises are similar to the so-called "liver deaths" following operations on the biliary tract. Though there may be some analogy, evidence that deaths resulting from liver failure (liver deaths) and those resulting from toxic goiter crisis are one and the same phenomenon, is not conclusive. True, it has long been known that the liver suffers severely in hyperthyroidism. A type of subacute yellow atrophy may result with shrinkage in the size of the organ. Clinical jaundice may appear in cases with severe hepatic damage. (Mahorner). The glycogen content of the liver is diminished and this depletion has been blamed as a fundamental cause in severe preoperative or postoperative crisis. A patient in crisis not only has an extremely rapid pulse and marked uncontrollable nervousness, but there is a gradual ascending temperature reaction which may be irreversible with superimposed disorientation and coma. Thus in some respects the clinical picture of severe crises does resemble the so-called hepatorenal syndrome, but that they are the same is not proved. Whether the liver is responsible for these symptoms or not is not certain but because hepatic function is deficient it is proper to attempt to improve it before operation for severe hyperthyroidism. The Quick hippuric acid test is the best test for liver function in hyperthyroidism and it may demonstrate liver damage but the conclusion cannot be drawn that the test is delicate enough to indicate clearly the degree of hyperthyroidism and toxicity. Since the glycogen of the liver and muscles is depleted in hyperthyroidism it is important to restore the glycogen by administration of large quantities of sugar by mouth or if necessary by vein before operation. This protects liver in the crucial stage immediately following the operation. A liver stimulant (decholin) has been recommended. Other than the usual preoperative measures, time and dextrose, little can be done actually to improve liver function in the preoperative phase. But that it does improve with subsidence of clinical symptoms of hyperthyroidism may be shown by liver function tests.

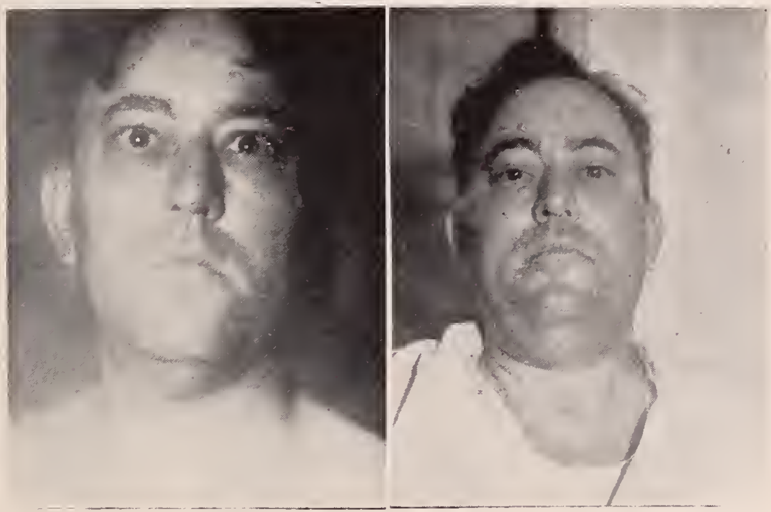

Fig. 2. Patient aged 44 years with diffuse toxic (exophthalmic) goiter. For one year he had nervousness, tremor, weakness, palpitation, weight loss (46 lbs.) and other signs of hyperthyroidism. He has had a course of radiation therapy elsewhere. He still remains toxic with basal metabolic rate plus 45. The postoperative picture shows him two months after thyroidectomy. He has regained 20 pounds; his pulse rate is 70 to 80, and he is clinically well. Hyperthyroidism is usually indication for operation when the diagnosis is made. Best results are obtained from thyroidectomy before the disease is well advanced.

So far these tests cannot be relied upon as a definite index as to whether the patient is in optimum condition for operation.

VITAMINS AND DRUGS. Certain patients with hyperthyroidism under preoperative preparation show a satisfactory subsidence in their clinical manifestation of the disease. Their pulse rate becomes slower, basal metabolic rate decreases and they gain weight. The surgeon could not ask for a better response because these are favorable signs. However, not all patients respond thus and some of them fail to gain weight. Why this variation occurs is not clearly evident. The appetite of hyperthyroid patients may be good and yet not consistent with the increase in metabolism. McCarrison found hyperplasia in the thyroid of pigeons fed on a diet deficient in vitamin B. The cardiac symptoms of hyperthyroidism resemble those of vitamin B deficiency. Frazier and Ravdin called attention to this and advised administration of vitamin B to increase the appetite of the patient and thus facilitate the gain in weight. This adjunct in preparative therapy may be of decided help in some patients. Other vitamins are used in the preoperative preparation of hyperthyroid patients probably indiscriminately. Vitamin C is used on the general principle that it is frequently deficient in the surgical patient and that its presence in normal amounts is necessary for wound healing. Vitamin D is sometimes given to the hyperthyroid patient to bring about an improvement in calcium metabolism which in the hyperthyroid patient is in negative balance, i.e., calcium is withdrawn from the osseous system. It is long known that in hyperthyroidism to a certain extent the osseous system becomes osteoporotic from the loss of calcium. For this reason also calcium lactate or calcium gluconate has been recommended as a preoperative measure. Whether this has any decided effect in the recovery of the patient is not determined.

INDICATIONS FOR OPERATION. With improvements in diagnosis and surgical facilities, indications for operations have become more clearly defined. The presence of hyperthyroidism is indication for surgical therapy. Unfortunately, this does not seem to be clearly understood in all cases for patients are still referred to the surgeon only after a period of medical management is tried by the clinician. Medical management after the diagnosis of hyperthyroidism is made is indicated only as a preoperative measure. Best results from surgery are obtained in the early cases of hyperthyroidism in which resection is done before any marked changes in the thyroid gland or general system have developed. Enlargement of the thyroid gland without systemic symptoms may justifiably present more difficulty in deciding if operation is indicated. The statement that from one-half to one per cent of all nodular goiters removed are malignant often is used as an argument in favor of early operation for small nodular goiters. Diffuse slight enlargements of the thyroid or small nodular enlargements of the gland if not toxic do not necessarily require surgical removal. But single discrete nodules are not infrequently malignant and they should all be removed. Single discrete tumors of the thyroid can no more certainly be termed benign adenomas without microscopic examination than tumor of the breast can be pronounced benign by palpation. The only difference in favor of a tumor of the thyroid being benign is that cancer of the thyroid is not as common as a cancer of the breast. This difference does not give the necessary security. For this reason all single nodules or tumors of the thyroid should be removed.

ANESTHESIA. Improvement in anesthetic methods has been beneficial to thyroid surgery. An optimum form of anesthesia to allay the apprehensiveness of the hyperthyroid patient has been sought. It was hoped that a basal anesthetic such as avertin would be at least a partial solution to this problem. However, the use of avertin has not proved satisfactory. It does not remove the apprehension until anesthesia is well advanced and the risk with its use is not reduced. Warren Cole, after a careful trial condemned the use of avertin. Cerebral anoxemia is greater with avertin than from inhalation anesthetics without it. Still some basal anesthetic or preoperative medication is desirable to secure a calm somnolence for the patient immediately before operation. This is particularly desirable if the patient is suffering from severe hyperthyroidism and its attendant apprehension and nervousness. One method of securing anesthesia without undue apprehension on the part of the patient is by employing intravenous anesthesia. Intravenous anesthesia (pentothal sodium) may be used to put the extremely toxic to sleep without her knowing it. It may be administered in the patient's room by the intern after he has repeatedly been in the room at the same time, on previous mornings for "drawing blood for specimens." In this way the very toxic patient can be given an anesthetic without her even knowing she is going to be operated upon. Oral administration of barbiturates in increasing doses over a period of hours may accomplish much the same in obtaining a calm somnolence for the patient before operation. Thus three grains of nembutal given the night before operation and three grains of nembutal in the morning before operation may prevent any apprehensive reaction before operation. Since these patients tolerate morphine well a fourth of a grain dose should be given to an adult instead of the usual sixth of a grain preoperative dose. A combination of anesthetic is usually necessary. Having an expert anesthetist removes much of this part of the responsibility from the surgeon. With cyclopropane or ethylene there is little interference with oxygenation of the blood and thus less likelihood of an anoxemia which in hyperthyroidism is a very undesirable physiologic state. No better series of cases has been reported than those done under local anesthesia and the use of novocain subcutaneously and into the cervical plexus is still one of the satisfactory ways of obtaining anesthesia for thyroid surgery. It can still be used to advantage in certain cases but it does delay the period in the operating room and its use generally has to be supplemented by inhalation anesthesia for at least one major part of the operation

A few practical recent advances in surgical management of the patient with goiter have been discussed. Though none of these can be regarded as revolutionary they are in the main helpful in obtaining the utmost security for these patients at the time of operation.

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Treatment of Infantile Eczema

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INFANTILE ECZEMA is a very common disorder. The treatment of this condition is of interest to the general practitioner, the pediatrician, the dermatologist, and the allergist. Eczema is still difficult to treat in spite of the numerous remedies which have been suggested. I believe that the co-operation of the parents, and the detailed careful treatment are most important regardless of the types of treatments used. Each case must be treated as an individual. The general welfare of the child must always be considered.

I shall confine my discussion to methods which I have used personally, realizing that many other methods have been used successfully. In nearly every case it has been desirable for me to use both general methods and local treatment.

Better results are obtained if the several types of eczematoid eruptions are clearly understood, as the treatment must be varied for each type. If I can help in this understanding, this paper will not have been in vain. Three common types are seborrheic dermatitis, contact dermatitis, and true allergic (atopic) eczema.

SEBORRHEIC DERMATITIS

Seborrheic dermatitis is most often seen in fat breast-fed infants under six months of age. The eruption consists largely of greasy, yellowish scales resembling psoriasis. Oozing is rarely seen. The scalp is nearly always covered with "scruff." The face and the folds of the skin are characteristically involved with a marked tendency toward the occurrence of intertrigo in the creases of the neck, axillae, and groins. These areas may become secondarily infected. Mixed forms of seborrheic dermatitis and atopic eczema may occur.

Seborrheic dermatitis is not an allergic manifestation. The skin tests are negative. The blood shows no eosinophilia and no circulating antibodies are produced. The etiology is not clear, although several theories have been advanced. It has been thought to be due to a disorder of fat metabolism. One theory supposes that there is a deficiency in the baby's diet of a so-called vitamin "H" found in large quantities in casein, liver and yeast. Cow's milk contains much more casein than does human milk. The increased intake of these foods seems to benefit seborrheic dermatitis. Others believe that the condition is due to a specific infection with certain fungi as antiparasitic local remedies are best.

The usual treatment then takes all of these theories into consideration. The overweight child is reduced. The breast-fed infant has casein and yeast added to his diet. It is often desirable to wean the baby entirely. I use a formula as recommended by Hill[1].

Boiled skimmed milk	24 ounces
Water	8 ounces
Casec (Calcium casenate)	5 tablespoonfuls
White Karo corn syrup	1 tablespoonful

Buttermilk is also of value in feeding the infant with seborrheic dermatitis, but it is not usually taken well.

Sunlight and ultra-violet light therapy are often useful.

The local treatment varies with the severity of the eruption, milder applications being used in the most acute cases, with later changes. I usually begin with boric acid ointment, either plain or containing about 1% salicylic acid and 1% sulphur. It is sometimes necessary to change to preparations containing tar, the strength of which must be varied to suit the individual. The usual concentrations of crude coal tar are from ½% to 6% in ointment base. Zinc oxide ointment makes a suitable base for stronger remedies. For secondary infections I prefer an aqueous solution of acriflavine 1% and gentian violet 2% painted on as often as necessary. This preparation is very good for painting in the infected creases of the skin, producing a slight tanning effect thereby drying the secretions.

No severe dermatitis responds more quickly to rational therapy than does the usual case of seborrheic dermatitis.

CONTACT DERMATITIS

Contact dermatitis is an allergic eruption due to sensitization of the superficial layers of the skin, the epidermis, to many types of substances of a non-protein nature. Ivy dermatitis is a typical example. I saw many cases in Minnesota which were apparently due to dyes in snow suits and other woolen clothing. The condition is not hereditary, there being no association with hay fever and asthma, and no circulating antibodies are produced. Previous contact is necessary in order for the skin itself to become sensitized. When the offending agent is removed the skin returns to normal. The exposed surfaces are naturally most often involved. The eruption is characteristically vesicular in nature. Patch tests are often of value in diagnosis[2].

The treatment consists primarily of removal of the offending allergen and the application of soothing remedies. Wet dressings of saturated boric acid solution or ½% aluminum subacetate solution are of value in the acute stage. Later I have often used 3% ichthyol in zinc oxide ointment.

My experience with desensitization for contact dermatitis has been limited. I have used injections of poison ivy extract in almond oil (Lederle) with apparently good results in a few cases of recurring ivy dermatitis and expect to use it more readily in the future.

ATOPIC ECZEMA

Atopic eczema is the most important form of eczema in childhood as it is most common and most resistant to treatment. The eruption may involve the face alone or the entire body. Vesiculation and oozing are common. The child is often very uncomfortable from the severe itching. The parents and the doctor are frequently discouraged with the slow response to treatment and with the frequent relapses. If the eczema persists beyond the third year of life it is usually more resistant to all types of treatment. This condition develops in an individual who has inherited a predisposition to become sensitive to various factors in his diet or environment. The young infant is most likely to be sensitive to foods while the environmental allergens become more important as the child grows older. Children may become sensitive to a great number of substances, but for practical purposes we will consider only the most common factors.

Milk is the most common cause of eczema in the small infant as this is the first food taken by the child[3]. An infant may become sensitive to the proteins of human or cow's milk or to small quantities of food protein excreted in the milk. Wheat and egg may cause allergic reactions when they are ingested by the older infant. Orange juice and cod liver oil are seldom important causes of eczema. Feathers, house dust, animal emanations and wool are common environmental allergens.

In atopic eczema of small infants the skin tests are of little practical value and they must always be carefully interpreted. The cooperation of the allergist is often necessary in the treatment of eczema in the older child. The newborn infant may show a positive scratch test to egg although this substance has never been ingested. Older infants often show positive intradermal reactions to milk, house dust, and feathers. It is safest to use the scratch tests first. The intradermal tests may then be used with the substances which have given negative reactions to the scratch tests. A recent method of testing, the multiple pressure puncture method, advocated by Stoesser[4], may be considered as a combination of these. This procedure is similar to the new method of smallpox vaccination.

In a few severe cases in which nearly the entire skin area is involved, it is desirable to use the passive transfer method. This procedure is difficult and time-consuming.

When skin tests are used it is always necessary to determine actual clinical sensitivity before any important food is removed from a child's diet for a long period of time. Various foods may be eliminated from the diet for short periods of time for testing purposes. The environmental allergens have to be considered at all times. The treatment of atopic eczema may be divided into general management, immunologic measures, and local treatment[1]. All three are important and neither should be neglected.

The general condition of the individual child must be always considered. Overweight children may improve after losing weight. I repeat again that important foods should not be long removed from the child's diet on the basis of skin tests alone. If the child is actually clinically sensitive to milk or other important foods provision must be made for adequate dietary substitutes. We must always bear in mind the growing child's caloric requirements and his increased need for proteins, minerals and vitamins.

The severe itching causes much scratching with subsequent irritation, scarring, and thickening of the skin, and danger of secondary infection. Scratching and rubbing are prevented as well as possible by mechanical means. It is often necessary to use cuffs, splints or braces on the upper extremities. A piece of cellophane under the child's head will reduce the amount of friction on the face.

It is wise for the mother not to use any soap or water on the eczematous skin. The affected areas may be cleansed with mineral oil or olive oil. A colloidal bath may be necessary to remove scales and crusts. Such a bath may be prepared as follows:

"Boil two cups of oatmeal in one quart of water. Strain through a cheese cloth into a bathtub one-half full of water (96 degrees to 98 degrees F.) to which has been added one-half cup of baking soda."

The child may stay in the bath one-half to two hours. He should be dried by patting, not rubbing.

Sedatives such as phenobarbital are often necessary in the severe cases to insure an adequate amount of rest and sleep.

Hanson and others recommend the addition to the diet of corn oil or raw linseed oil to increase the intake of unsaturated fatty acids. I have not used these preparations very much recently.

Histaminase offers quite a bit of promise in the treatment of eczemas of older children which are due to foods. The child must be able to swallow the small tablets whole before meals. The drug has only recently appeared on the market as Torantil (Winthrop) and therefore has not been used long enough to justify further statement.

I must emphasize the danger of smallpox vaccination in the eczematous child, because of the possibility of auto-inoculation of the abraded skin areas.

The immunologic treatment is based upon the regulation of the diet and the avoidance of the common environmental allergens. Each case must be individual although each physician has certain routine procedures.

If the baby is breast-fed, the mother is usually instructed to omit eggs from her diet. Other foods may be reduced or omitted as indicated. The baby should not be allowed to become too fat. It may be necessary to give water before the breast feeding in order to decrease the amount of breast milk taken. Orange juice and cod liver oil concentrate are given unless they apparently cause symptoms. Vitamin D can be given in a refined product such as Drisdol (Winthrop).

It may become necessary to wean the infant. The child then is given cow's milk, goat's milk or a milk-free substitute such as Sobee (Mead Johnson Co.). The lactalbumin of cow's milk is supposed to be different biologically from that of goat's milk. Therefore, infants sensitive to casein of cow's milk probably will not be able to tolerate goat's milk. Prolonged boiling, evaporation of milk, and drying of milk tend to render the lactalbumin less allergenic while the casein is apparently not altered by heat. Thus infants sensitive to casein should be given a milk-free substitute.

If the infant cannot take boiled evaporated milk, I usually try goat's milk first, changing to a milk-free substitute later if necessary. The so-called "hypo-allergic" dried milks are not often taken well and I do not use them. I also have never seen the need for the so-called allergin-free dextri-maltose (Alerdex) as I have never seen a case proved to be due to Karo corn syrup.

Any new foods should be given carefully, allowing sufficient time between additions to judge their effect. Much trial and error is often necessary. Cereals are added later than usual, it being a good plan to start with rice, rye, or barley rather than wheat. Egg is not given until the child's skin has been clear for many months.

The older child may be placed on a very limited diet consisting of a few foods which rarely give reactions[5]. Some of these foods are as follows: corn and its products, rice, rye, carrots, string beans, pears, prunes, peaches, bananas, jello, cevitamic acid, cod liver oil concentra and Karo syrup. Provision must be made for milk or a substitute. The diet must be varied to suit the individual case, the basic requirements being always considered. New foods are carefully added one at a time and their effects observed.

The environmental allergens are important causes of eczema especially in the older infant and child. Rusten[6] has emphasized that these substances, air-borne or by contact, are deposited on the excoriated skin, causing local reactions similar to those obtained from scratch tests. Many of these are common household factors such as feathers, house dust, orris root, wool and animal emanations. It is wise to attempt routinely to break into this contact both by decreasing the amounts of the offending factors and by protecting the irritated skin with ointments and bandages.

I always advise the elimination of feathers from the entire house. Pillows may be dispensed with or enclosed in rubberized airtight material. The child should not use woolen clothing and blankets. All animals are removed, as are any other suspected factors. The infant's room is made as dust free as possible. The thorough cooperation of the mother is always necessary in order to carry out these procedures. I have not attempted to desensitize infants by hypodermic injections.

The local treatment is always important. I believe that the frequency and thoroughness of application are more important than the types of application, within certain limits. For best results the remedies should be kept on the skin as constantly as possible. It may be necessary to apply an ointment ten times a day. The types of applications are varied depending upon the severity and the acuteness of the eruption and upon the pressure or absence of secondary infections.

Wet dressings are used for the acute, moist types in which there is much oozing. They may be necessary in secondary infections. Saturated solution of boric acid or ½% aluminum subacetate solution are often used. Lotions are occasionally of value.

Ointments are used more than any other applications. There are many good preparations. Each physician has his favorites[7]. I personally use only a few types, varing the types and their strengths according to the individual case. It is good practice to begin with a mild ointment in the mild and acute cases, changing to a stronger one as the skin becomes dry and resistant to treatment.

My favorite ointments are boric ointment, 3% ichthyol in zinc oxide ointment, and tar ointment.

The boric acid ointment and the ichthyol ointment are well tolerated. Certain individuals cannot tolerate tar at all while others can use it in only weak concentrations. The strength of the tar preparation must be changed as the condition warrants, the usual concentration being from ½% to 6%.

Ammoniated mercury ointment and the previously mentioned acriflavine, gentian violet solutions are useful for secondary infections. It must be borne in mind that certain individuals are sensitive to mercury and their skin conditions may be aggravated by the ammoniated mercury ointment.

A tar paint or lacquer has been useful in small localized chronic areas, especially those often seen at the flexural surfaces of the elbows and knees. One preparation consists of 5 to 10 per cent crude coal tar in equal parts of acetone and flexible collodion. It is painted on the affected areas once a day. No other applications are permitted on these areas, the painting being renewed daily. Tar Dermament (Parke Davis & Co.) is a similar preparation.

In conclusion I wish to emphasize the following points:

1. The types of eczematoid eruptions must be differentiated.
2. The child's general condition must always be considered.
3. The treatment must be individualized for each case.
4. The success of treatment depends to a great extent upon details of treatment and upon the thoroughness with which the methods are carried out in the home.

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DISCUSSIONS

Dr. George W. Owen (Jackson): I think that Dr. Ward has very capably covered this subject. He is certainly to be congratulated upon saying so much in so short a period of time.

The manifestations of allergy are essentially the same in children as in adults. This paper does not include all of the allergic dermatoses, which are very common in children, but it does include that group usually referred to as infantile eczema.

With regard to seborrheic dermatitis, from what has been said, you will readily understand that the differential diagnosis is highly important from the standpoint of management and treatment. The allergist is not interested except from the standpoint of differential diagnosis. As Dr. Ward has pointed out, however, seborrheic dermatitis and some allergic dermatoses may be coexistent. Seborrheic dermatitis and true atopic eczema are not related from an etiological standpoint, and they differ from a histological standpoint.

Now, with regard to contact dermatitis, this is looked upon as an allergic condition, but it is seldom seen in infancy, due to the fact that it does not develop except by repeated contact—usually to some water soluble antigen. When contact dermatitis is found in an infant it is usually the result of repeated application of some drug. The older the child, the more often will contact dermatitis be seen, but even then it is not nearly so frequent as in adult life. Desensitizing measures are seldom indicated in the handling of contact dermatitis in children. If skin tests are used at all, patch test is the only one worth while. The ordinary scratch tests are of practically no value.

So, we see that the allergist is concerned primarily with the third condition which he discussed; namely, atopic eczema—which is a true eczema. Dr. Ward has already mentioned skin testing in this condition.

When a case presents to the attending physician for the first time, and the diagnosis of an atopic eczema has been made, it probably is just as well for the physician at this time to eliminate from the child's environment those more common offending factors, such as milk, feathers, house dust, animal emanations, etc. When this has been done and other general measures observed, such as local applications, etc., if that case fails to respond within a reasonable length of time, it is then that the allergist may be of some aid to the pediatrician or attending physician.

With regard to the exclusion of food, I think the results will not be good if all offending foods are not left out of the diet at the same time. In other words, a basic diet of foods that do not act as offenders, should be tried. After these offending foods have been left out of the diet for a minimal period of two weeks, they can be added back to the diet one at a time, giving each newly added food a four-day trial before the next new food is tried, and in this manner you will be much more likely to determine the definite offending foods.

In persistent cases that have been properly handled for a period of weeks or months, and results have been unsatisfactory, then desensitization should be tried. Desensitization is of material aid in persistent cases. Desensitization is rarely necessary in infants.

The treatment, therefore, sums up in about this manner: first, the differential diagnosis—because the treatment of seborrheic dermatitis is obviously different from that of atopic dermatitis. Second, it is important that the parents are well aware of the fact that persistence and co-operation are going to be necessary to accomplish the desired results in atopic eczema. The physician is already aware of this. Third, persistent cases should be subjected to skin tests, and where the allergist feels that it is indicated desensitization should be done.

I have the feeling that every step possible should be taken to overcome this condition in childhood. It is rather surprising the large per cent of those children who have eczema who later in life will develop asthma.

One word with regard to histaminase, or torantil. Do not use it expecting too much. You will probably be disappointed if you pin your hopes entirely upon it. This drug is being subjected to some very severe tests at the present time. It is not doing all that Winthrop claims it will do. However, in certain instances it does seem to be of material aid. It is worthy of trial, and in certain instances is rather spectacular.

A recent article was seen with regard to the use of vitamin "B" complex in dermatitis, such as we are discussing. I cannot give you any first hand information with regard to the use of vitamin "B," but the men reporting upon it were very enthusiastic.

DR. WOMACK (Jackson): Dr. Ward has brought us a very interesting discussion. I sometimes think of allergies as the last line of defense for the pediatrician. Certainly, it seems that allergy is increasing. At least we are recognizing it more. It is a big problem in infancy. I speak particularly with reference to the treatment of these allergic manifestations because outside of the allergic phases of eczema in infancy, the others are not so important. As a rule we find the babies in extremis, as far as their comfort is concerned; they are usually anemic, and they have been twisted from pillar to post in a dietary way; they are rachitic. We should treat it in a common sense way. In the first place if they are breast-fed babies, we put the mother on twelve or fourteen articles of diet, and then test the baby for those particular things, and if the baby is sensitive to any of those particular things, we remove that from the diet and try to replace it with something else. Where babies are bottle-fed and are sensitive to cow's milk, they will often be able to take goat's milk or sobee or typo-allergic milk. One of the chief difficulties in feeding young babies with eczema is that they are nearly always sensitive to wheat. In that case, oatmeal is available, rice gruels, or some of the homogenized foods, to which they are not sensitive, may be placed in the bottle with the milk in ½ to 1 teaspoonful to each bottle.

I have never found anything but tar that would help it. Recently we seem to get good results with histaminase in the form of Torantil, taken internally, which neutralizes the chemical substance responsible for the allergy.

DR. C. E. WARD (closing): I wish to thank Dr. Owens and Dr. Womack for their nice discussions, and I wish to emphasize that no important food should be long excluded from any child's diet without actual tests other than skin tests alone.

Breast Cancer: Its Treatment and the Cautery Technique of Operation*

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IT HAS BEEN estimated by Phfaler[1] that there are at present at least 50,000 cases of cancer of the breast in this country. It has also been claimed that cancer of the breast has been on the increase. However, in this respect there are a number of factors to be taken into consideration. First is the increased span of life and the fact that more persons live to what is known as the cancer age. Closely related to this is the fact that one-third of cases of cancer of the breast occur before forty years of age, one-third between forty and fifty years and the last third in the postmenstrual years.

Investigations to determine the cause or etiology of cancer have been unremitting and in the case of breast cancer one is almost convinced that this has been accomplished. Behan[2] says, "It may be accepted and particular significance may be attached to the circumstance, that only one set of factors have presented themselves (as far as we are aware), which are universally and constantly associated as provocative agents to cancerous change; namely cellular disturbances, the result of irritations localized at the site of cancerous lesions. Even though the ultimate cause of cancer may be more hidden and complex than these simple reactions would indicate, it seems reasonable to suppose that, in addition to a possible basic cause, direct inciting agents are necessary in the affected area before a cancer does develop. These inferences are accepted by the majority of research cancer workers.

In the discussions concerning cancer there is agreement that the change from normal to the cancerous cell or tissue can more readily be produced when both the constitutional predisposing factors and the local irritative agents are present. It seems that predisposition alone is not sufficiently powerful to produce cancer, and conversely there is also considerable doubt whether local irritation alone can cause cancer without the associated activity of constitutional hereditary predisposition.

Maude Slye[3] has shown that a cancer of the breast in mice is hereditary and by analogy we believe that it can at least be said that individuals can inherit a predisposition or a lack of resistance to its development and will develop cancer when the environment is favorable.

Dr. Warthin, of the University of Michigan, reported a family in which cancer appeared so often as to be almost convincing of the part that heredity played.

Personally I have had under observation one family in which the grandfather died of cancer of the rectum, three children died of cancer of the rectum and two grandchildren died of the same disease. It is certainly more than a coincidence that these three generations not only developed cancer but in each case it was the same organ involved.

Late menopause with prolongation of menstruation is definitely associated with an increased incidence of cancer of the breast. Isaac Y. Olch[4], Am. J. of Cancer, July, 1937, in an analysis of 342 cases gave the menopausal ages of these cases as follows:

Under 40	10
40 to 44 years	41
45 to 49 years	104
50 and over	187
TOTAL	342

He says, "In other words there were 54.7 per cent who were still menstruating at the time of observation, or who had passed through the menopause after the age of fifty. That is, almost five times as many women in this group had a delayed menopausal age as compared to a series of normal women. This difference is too striking to be disregarded and coupled with our past clinical and more recent experimental knowledge forces us to the conclusion that delayed or prolonged menstruation must be a factor to be considered in the etiology of this disease in these older women."

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*Read before the Section on Surgery at the seventy-third annual session of the Mississippi State Medical Association, Jackson, Miss., May 14-16, 1940.

Numerous investigators have shown conclusively that breast cancer can be induced in susceptible mice in over 70% of cases by the use of estrogen, theelin and progynogen.

The medical profession has long recognized that there is an intimate relationship between the ovaries and the breasts but it has been only in recent years that a rational explanation of this relationship has been determined. It is now known that the function of the breast is mainly dependent upon the hormones secreted by the ovaries and the pituitary gland and that the estrogenic hormones cause most of the symptoms of painful and swollen breasts at the menstrual period, and that chronic cystic mastitis which is often a precursor of cancer has been proved to be due to endocrine dysfunction and the estrogenic principles have been isolated from the lesion present. Lastly, chemical analysis has shown that there is present in estrogenic hormones the same chemical formula of phenanthrene as causes the carcinogenic action of tar.

It has been shown by Loeb, Lascassagni, etc., that these hormones when administered to a susceptible strain of mice will cause the development of breast carcinoma in over 70% of cases. It has been further determined that the estrogenic hormones have basically the same carcinogenic chemical formula as tar. We feel that these investigations, carried on with mice, have gone far to clear up the question of the etiology of breast cancer and if one could correlate the age, life span and quantity of oestrim in the human and the mouse the result would be most illuminating. O. Auschincloss reports one case of cancer of the breast which he believes was caused by the prolonged administration of an active estrogenic agent over a period of two years. The patient had a familial history of cancer. At the end of two years she developed a definite cancer of the breast with metastases to the axilla.

Behan[5] summarizes the present status of the endocrine relation to cancer as follows: "The conclusions of Lascassagni summarizes this question. He states that familial differences in the reaction of organs might be due to an unequal elimination of the hormone. One may imagine that the strains slightly susceptible to cancer comprise those whose excretory functions rapidly promote an elimination of estrone, while in those susceptible to cancer estrone may be retained, accumulating in certain points in the organism, particularly in the mammary ducts. Or, a chemical reaction might effect a transformation in the organism of the susceptible strain (but not in the resistant strain), transforming stable estrone into a more labile substance.

In all hypotheses one fact remains established, namely, the role of estrone in the pathogenesis of adenocarcinoma of the breast. The action is established in certain regions of the mammary gland where the hormone has been retained and has been enabled to exercise its proliferative action on the epithelium over a sufficient period to provoke cancer. For one cannot doubt that estrone filters into the glandular formation of the breast. In the human being it is known that colostrom contains a large quantity of estrone, and this has likewise been demonstrated in cystic cancerous breasts.

It may be that estrone is transformed by stagnation into one of those carcinogenic agents discovered by Kennaway, Cook and their collaborators. These English chemists began by isolating from certain tars polyvalent carcinogenic hydrocarbons; all of these hydrocarbons contain in their structure the same chemical ring of phenanthrene which exists in the formula of certain organic substances, as bile salts, cholesterol and the sex hormones. Lately Kennaway & Cook, working with cholalic acid, have obtained a highly carcinogenic agent — methylcholanthrene. They conclude that the organs, using substances normally present, may be capable of carrying on the necessary dehydrogenation so that they may be converted into carcinogenic agents."

There are two vital factors in regard to cancer which are universally recognized: first, that cancer, while its development may depend upon an hereditary weakness or lack of resistance, in its early stage it is a purely local disease; and secondly that its cure depends inevitably upon its early recognition.

For the past twenty years there has been an uninterrupted effort to educate women to the fact that any soreness, lump or discharge from the breast is abnormal and demands the most careful examination. And as a rule we see a much greater number in the higher walks of life in their earliest stages. In the lower orders of the social strata we still see many of these cases in an advanced stage. It is not only the public which needs to be educated but unfortunately, only too often we have found the advice to wait and watch developments has been given, by the physician.

I have at the present time under treatment a patient upon whom I did a radical mastectomy in 1933, who in May of that year consulted an outstanding physician of the state and was advised to wait and watch. In August she consulted a prominent physician of a nearby state and was advised to forget it. She was first seen in October when there was a clearly defined chain of lymphatics leading to the axilla. Last week she was seen again and in checking her chest there was found multiple metastases to both lungs. Had a section been made of this lesion in May 1933, it would no doubt have been recognized sufficiently early to have enabled one completely to extirpate it. When one considers that in the earliest stage at which cancer can be detected, when the lesion may be no larger than a pea or a shot that the cancer cells are already proliferating and permeating the surrounding tissues and tributary lymphatics, one can but realize how unwise and fallacious such advice is.

Our experience with frozen tissue section over a period of twenty years and excluding those lesions obviously malignant and considering only those of doubtful nature, has been that one out of every ten proved malignant. When one can by frozen tissue section unequivocably settle this important question we feel that one is certainly justified in adopting it. I might say that one is obligated to advise frozen tissue section for all lumps in the breast.

Statistically it has been shown that 70% of the cases operated upon before axillary metastases have taken place are permanently cured, while only 25% of those operated upon after axillary metastases have taken place are cured. Our experience in 102 radical operations upon the breast has been that there has been only one case with metastases to the axilla which in the course of ten years did not die of metastatic growths elsewhere in the body, while in those cases in which the lesion was confined to the breast there has been 100% of cures.

Handley's[6] permeation theory of the spread of cancer offers us the most logical reason for the total ablation of the breast and gives a firm foundation upon which the operation rests. There are others who have differed with Handley's views, claiming that dissemination of the growth is by the lymphatics entirely, while Handley himself also states that naturally there is dissemination through the lymphatics but that locally the cancer cells spread through the various tissues by permeation of the lymphatic channels.

There are many factors which influence the prognosis of the cancerous breast,—the age of the individual, pregnancy, lactation, whether much adiposity is present or the patient is of the lean thin type, and the presence or absence of constitutional disease; also the degree of differentiation of the cancer cells. Early recognition cannot be stressed too much because at this time the lesion is purely local which is the most important factor affecting the prognosis.

The treatment of cancer of the breast revolves itself into the application of surgery, the use of x-ray and radium or a combination of the two. There is no question that cancer cells can be killed by the x-ray but there has always been and still is some question as to whether or not life expectancy has been prolonged or cancer permanently cured by the use of these measures alone.

Portman[7] in Radiology, Oct. 1937, in an analysis of the work done at Crile Clinic showed conclusively that in Group 2, in which axillary involvement had taken place that life expectancy was definitely increased by radiation therapy.

The late Dr. J. C. Bloodgood[8] in J. A. M. A., Feb. 9, 1935, advocated preoperative radiation of all cancers of the breast to be later followed by radical amputation.

Geoffry Keynes[9] advocates interstitial irradiation routinely for all cases in Grade 1, as the sole treatment. Where there is a large tumor he advocates removal of the tumor and interstitial radiation. In neither event does he advise dissecting out the axillary glands. Our experience is such that we have never felt justified in following his advice.

In the 102 cases referred to we do feel that to our own satisfaction we have been able to demonstrate that with the lesions removed locally there has never been a recurrence in the axilla and only two recurrences in the wound. In all of the patients who died of metastases the disease had already spread prior to any operative interference.

For clinical purposes cancer of the breast can be arranged into four classes. In Class 1 or those confined to the breast, radical amputation followed by postoperative x-ray should be the treatment. Class 2, involvement of the breast with metastases in the axilla. Both preoperative and postoperative x-ray with radical ablation. Grade 3, intensive x-ray without operation. Grade 4, or advanced carcinoma, x-ray purely palliative in character. We do practice uniformly postoperative radiation of all cancers of the breast.

The operation which we prefer is a combination of the best features of several different men. First—one should never get away from the underlying principles of the Halstead operation. Secondly—we feel that the Rodman incision has certain distinctive advantages over the Halstead incision in exposure of the axillary space and the protection of the chest wall during the dissection of the axilla and the control of the blood supply. The principles enunciated by Handley should be kept consistently before one. These are as follows:

1. The area which needs widest removal is that in which the growing edge is situated, viz: the deep fascia, for in this area is found the lymphatic plexus which forms a highway for the spread of the disease.

2. The area of deep fascia removed must be circular in outline, since permeation spreads with approximate equality in all directions from the primary growth.

3. The primary growth must always be the center of the area of fascia removed.

4. The skin and muscles being secondarily involved over a smaller area and less widely than the fascia, the removal of a smaller area of these tissues will suffice. The removal of the primary lymphatic glands in continuity with the primary growth is, of course, essential, since emboli of cancer calls reach them early along the trunk lymphatics.

We have adopted in cur practice these underlying principles in the removal of the breast, except as regards the fourth stipulation. There we are satisfied that the operation should be as radical as for the skin and fascia.

Fourth, we prefer after the skin incision has been made by scalpel to use the cautery technic as brought out by Dr. A. C. Scott, of Temple, Texas, undermining the skin and the further dissection of the tissues of the chest wall. It is especially desirable to remove the anterior layer of the sheath of the rectus muscle because it is at this point that cancer so often metastasizes to the liver and the peritoneal cavity.

A more recent improvement in the technic of radical amputation of the breast is that introduced by Hutchins[10], of Baltimore, in which there is a transposition of the latissimus dorsi muscle, the subclavius and the chest wall in an endeavor to overcome the development of postoperative swelling of the extremity. We feel that this procedure has great merit in that it certainly will provide an additional means of carrying off lymph from the axillary region, as well as act as a protection of the bare chest wall, and render easier the early full use of the affected extremity.

The incision is sutured with silkworm gut combined with relaxation sutures of wire. As soon as the wound is healed we began postoperative radiation.

We are convinced that the more radical one makes this operation the less probability there is of any recurrence in situ of the disease.

Again I wish to stress our duty as physicians in consistently teaching the public the early symptoms of cancer and the necessity for early recognition if the disease is to be curbed at all. Secondly, to advocate as strenuously as possible the general adoption of biopsy and frozen tissue sections in the diagnosis of breast lesions, and third, to condemn in the most emphatic manner the giving of such advice as to "Wait and Watch."

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DISCUSSION

Dr. J. Gould Gardner, (Columbia): Dr. Gamble has presented a very masterful thesis on "Cancer of the Breast." It is regrettable that every practicing physician and surgeon in the state could not have been present this morning.

When a diagnosis, absolute, or presumptive, of cancer of the breast is made, the problem arises as to the best method of treatment. This question becomes important when we realize that approximately 40% of the mortality from cancer in the female is due to cancer of the breast.

There are several things in Dr. Gamble's paper, which I believe should be emphasized. It is very important that a determined effort be made to educate the females with every means at our command, the importance of presenting themselves for a careful examination as promptly as possible after the discovery of a lump in the breast, or a chronic inflammation which does not subside. Trimble says, (G. & O., January, 1940), "While a percentage of cure of approximately 75-80 may be achieved through a painstaking operation in patients who have no metastases, the figure drops to 25% in those patients who already have metastases. In 80% of the patients presenting themselves for an examination because of a lump in the breast metastases have already occurred." It is the duty of the family physician to impress upon his female patients that every hard lump in the breast should be removed promptly. It is a duty of the obstetrician to instruct his patients about the care of the breast as well as of the uterus.

Examination of a woman with a suspected breast cancer should include, besides a very careful physical and local examination, an x-ray of the chest, the long bones, the spine, and the skull, for possible metastases. The biopsy should include, besides the suspected growth, all of the surrounding tissue, lymph glands, and fascia. The entire specimen should be examined by a competent pathologist.

Following a complete study, patients with a suspected cancer should be separated into two classes: (1) those with a chance of cure; (2) those without a chance of cure.

The former should undergo radical procedures, without previous radiation treatment. In my experience postoperative x-ray treatment has been efficient.

Patients classed as incurable should be given powerful doses of x-ray, and no surgery, and usually no radium.

Patients with recurrences following radical operation should have palliative treatment by x-ray and, occasionally, by radium.

When a breast tumor is obviously benign, or when there is justifiable doubt as to its malignancy, it is removed locally, but with a wide margin. If the tumor is found by a microscopic examination to be malignant, the patient is subjected to a radical resection. Postoperative radiation is given whether the axillary glands are found to be involved or not involved.

When a breast tumor before operation is obviously malignant, preoperative radiation is given daily for a period of ten days. After an interval of six to eight weeks, the radical resection is performed. Postoperative radiation is then instituted.

Ablation of the ovarian function by radiation is recommended for those women with cancer of the breast who are still menstruating.

When a breast tumor has already metastasized to a distant foci and an operation is, therefore, useless, radiation alone is given.

Much has been written about the operative incision for a radical mastectomy, and numerous designs have been tried that will facilitate the primary closure of the wound. The modified Rodman technique as shown by Dr. Gamble today is splendid. Personally, I prefer the Samson Hanley method. However, the fundamental principles of any mastectomy for malignancy should be (1) absolute asepsis; (2) complete control of hemorrhage; (3) sharp, fine, entirely through dissection; and (4) gentle handling of tissue.

The Mississippi State Hospital Association and the Mississippi Chapter of the American College of Surgeons are trying to work out a plan whereby biopsies on all tissues will be available to the surgeon operating in the hospitals in Mississippi. The Mississippi State Medical Association is, also, of course, vitally interested in this necessary, and ofttimes life-saving examination, and I sincerely hope that the general practitioner, the gynecologist, and the surgeon will join hands with the pathologist in the operating room and laboratory in order to reach a more accurate diagnosis, and through it institute the most efficient and satisfactory treatment.

DR. A. M. MCCARTHY (Electric Mills): This subject has been quite completely covered by two very able surgeons, and all I have to offer is possibly a re-emphasis of one or two points in the treatment of this dread disease, that perhaps has not been sufficiently brought out. Dr. Gamble has related to us some very interesting data concerning the etiology of cancer of the breast. He informs us that the hormones of the ovary no doubt contribute a factor that acts as a local irritant in the breast itself and stimulates neoplastic changes particularly in those women who have a heredity susceptible to cancer.

If this premise is true, and recent investigation points very strongly that it is, we might use this information as a possible prophylactic treatment in cancer of the breast. In women who have a hereditary susceptibility, that give a history of cancer in the family, who at the same time have a prolonged menstruation, or a delayed menopause, might it not be wise for us to subject those individuals to irradiation of the ovary and institute an artificial menopause, and thereby protect them against the factor that irritates their breast over a long period of time, through these hormones? That is one point I wanted to emphasize. Not only can this form of therapy be used as a prophylactic treatment, but I think as a treatment of the condition itself. Peterson, I think it was, back in 1931, had a case of cancer of the breast in a young woman, that was very malignant and very extensive. She had a massive tumor that had broken through the skin and become ulcerated, with extensive metastasis to the bones, particularly to the pelvic bones. This produced marked pain and he subjected her to irradiation of the pelvis, and much to his surprise she was not only relieved of the pain in the pelvis, but the tumor in the breast itself showed marked improvement, so marked that the ulceration cleared up and the skin healed. He concluded that the improvement in the tumor itself was not due to the effects of irradiation direct, but due to the effects of the irradiation on the ovary. Other investigators have reported that metastasis of the lung has completely disappeared with irradiation of the ovary. It did not in most cases produce a cure, but it does show a very marked effect or a slowing up of the disease, and will prolong life unquestionably. Now, I believe that in cases of cancer of the breast that with any woman who has not passed the menopause, we should include in our treatment not only preoperative, but postoperative irradiation of the ovary for possible metastasis in combination with extensive radical operation, that we should also include irradiation of the ovaries and give these patients this added factor of safety.

Dr. Gamble has demonstrated to us this morning very beautifully the complete operation for radical resection of the breast. I think that some of us, at least those of us perhaps who do not operate as frequently as Dr. Gamble, do not do the complete operation. That is one of the errors of omission that we have to lay at our own door. Because of the time factor involved perhaps or the lack of our own knowledge of anatomical structures, we do not completely remove all those involvements of cancer of the breast. We do not completely eradicate all of this malignancy to the axilla, and even we should go further and go into supervascular space and eradicate there as well, and if we do a radical operation of the breast I think we should take sufficient time to do it well and do it completely, and we will have better end results.

Now recently there has been a difference of opinion as to what Dr. Gamble mentioned promulgated by Jeff Keyne as to whether radical resection of the breast is necessary. I am afraid that sort of teaching is going to do harm. It is possibly going to influence some surgeons to depend too much on irradiation. Keyne believes he can accomplish all that is necessary in the axilla by irradiation and does not attempt to eliminate the lymphatic channels even though metastasis is present. I do not agree with that. I believe with cancer in the breast or anywhere, we should attack it with every possible means at our disposal, and I am inclined as I go along to use preoperative and postoperative irradiation in team work, and not only on the various and possible extensions, but on the ovarian tissue as well in those who have not passed the menopause.

DR. E. C. PARKER (Gulfport): I do not propose to try to add anything to Dr. Gamble's paper. It is a most excellent paper, very, very instructive. The discussion so far has been nothing of the diagnosis. I fear that we are to blame for the way that we attempt to diagnose conditions of the breast. The way the ladies dress today, you cannot examine the breast unless you take the dress off. Gentlemen, make them strip to the waist, put them in a chair and you go to the back and feel the breast. You have the hard chest wall for a background then and you will be surprised how you will pick up things.

DR. GAMBLE (closing): In answer to a question by Dr. Shands, I repeat that I said that out of 102 operative cures in those in which the lesion had been limited to the breast the cure had been 100%. None had died over 20 years, but wherever there were actually other areas involved I had had a number of five-year cures, but only one ten-year cure, and also that there have been only two recurrences. I think that proves conclusively as far as the operation itself is concerned that it was radical enough, and that this metastasis occurred even as late as 10 years after with no evidence of any involvement of the former site of the cancer. I do not think that the heat from the cautery has a very excellent effect. I think it is preventive and I have used the knife but I have never brought myself to believe that it was as effective as the electric cautery. I want to reiterate that question of early diagnosis. When we find a lump in the breast, in any woman's breast, I do not think our advice should be to wait and see what it does. That lump should be removed and examined microscopically. Our personal procedure is to prepare that patient as if she were going to have a complete eradication of the breast; remove that lump, have it examined immediately, and if there is no evidence of malignancy the wound is closed and she is sent back to her room. If there is malignancy she knows at the time that she is going to have that operation performed, and we go right ahead. I do not believe in removing the lump and waiting a week to perform the operation. I think there is danger of stirring up trouble and causing metastasis to occur. I remember when Sistrunk brought out some statistics to show you could wait several days after the removal of these lumps and suspected tissues and even where there were cancers, his claim was there was no greater danger of recurrence. Personally and theoretically, I cannot conceive of the fact that there isn't a greater danger in waiting three or four days to find out whether the lump is malignant, and even if it is operating on the patient. We made up our minds twenty years ago that if we were going to treat cancer we were going to have a pathologist to examine that tissue right then and 20 years ago we got an all-time pathologist, the second one in the state. If you are going to operate on every woman with a lump in her breast you are going to operate on about nine that do not need it to one that does. We thought at the time that if we were going to treat cancer we should have means of diagnosing it, but at the time to go ahead with the operation if necessary. We do not believe we could postpone for several days to find out whether that was malignant. Sistrunk's attitude was that you could take tissue from the breast, sew it up and let it stay until you had time to have the tissue examined, and then if it was malignant go back and have a radical operation and achieve just as good results. I have had lumps no larger than your little finger and removed them and found cancer. I think that chronic cystic metastasis is often a precursor of cancer, and you will find in those these same hormones present, obstinate factors in the development of cancer. I have seen lumps which at the time I thought were chronic cystic metastases and removed them and found them malignant.

Tularemia*

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TULAREMIA is an acute specific infectious disease caused by the bacterium tularense and occurs under natural conditions in about twenty kinds of wild life, especially in wild rabbits and hares. These two kinds of rodents are the direct source of over 90 per cent of human cases in the United States. The disease may be transmitted to man from any of these natural reservoirs of infection, while dressing the carcass of infected animals or through the bite of one of several flees, ticks, bedbugs and mites which act as vectors. The number of cases among laboratory investigators of the disease has been relatively high. Man, himself, is not a source of infection to others of his kind. There is a characteristic primary cutaneous lesion with enlargement of the neighboring lymph glands.

From the increasing number of human cases and deaths from tularemia occurring each year it is apparent that many who hunt, handle, or consume the flesh of wild rabbits are unaware of the danger to man which may lurk in the small body of this animal. Up to 1935 there have been reported in the United States 6174 cases with 299 deaths or a mortality rate of 4.8 per cent. In 1938 the public health reports show in this country 2088 cases with 139 deaths and during 1939, 2200 cases with approximately 150 deaths.

HISTORY

Tularemia is of great interest to us because our knowledge of the malady is almost wholly the product of American scientific research. It was first described in 1910 by Dr. George W. McCoy of the Public Health Service in reporting a "plague-like" outbreak among ground squirrels in Tulare County, California. Also in 1910 R. A. Pearse, of Brigham City, Utah, reported cases of infection due to the bite of a fly and described the symptoms. McCoy and Chapin discovered and described the causative organism in 1912, calling it bacterium tularense after Tulare County, where the disease was first observed. The first human case with proved bacteriological findings was in Cincinnati in 1913, by Wherry and Lamb, cultures being made from conjunctional ulcers. In 1919, Dr. Edward Francis while studying "dier fly fever" in Utah recognized its identity with McCoy's "plague-like" disease of rodents and named the infection tularemia. Subsequent research has disclosed the presence of human cases in 48 states and has traced the source of human cases to 24 forms of American wildlife. Since 1925 tularemia has been reported in 10 foreign countries.

ETIOLOGY

The bacterium tularense of Pasteurella tularense is a short, aerobic, non-motile bacillus, which stains gram-negative. It does not form spores and in old cultures many coccoid forms may be found. It grows best in media containing 0.1 per cent cystin. It occurs equally in both sexes, although men are more prone to be infected than women, and both more than children. Negroes are less susceptible to infection than whites.

PATHOLOGY

According to Dr. Edward Francis two stages are noted—acute and subacute. During the first two weeks, the primary lesion and those in the spleen, liver, and lymph nodes show edema, conjestion, polymorphonuclear increase, sub-endothelial thickening of blood vessels, and numerous small areas of focal necrosis in which there is a central zone of amorphous material and nuclear fragments, while in the outer zone there is fibrin. Later the lesions become granulomatous, showing epithelioid cells and fibroblastic tissue. These lesions present a close similarity to tuberculosis.

CLINICAL TYPES

There are four clinical types, to which may be added pulmonary, meningeal, and intestinal forms. In type one—ulceroglandular type—the primary lesion is a papule of the skin, later an ulcer, and is accompanied by enlargement of the regional lymph glands. This type also includes cases of the pulmonary form, and the meningeal form, nearly all of which present evidence of skin route of infection.

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*Read before the Delta Medical Society at its thirty-sixth semi-annual meeting, Indianola, Miss., October 9, 1940.

In type two—oculoglandular type—the primary lesion is a conjunctivitis and is accompanied by enlargement of regional lymph glands.

In type three—glandular type—there is no primary lesion at the site of infection, but there is enlargement of the regional lymph glands.

In type four—typhoid type—there is no primary lesion, nor is there enlargement of the regional lymph glands.

Signs and Symptoms

The incubation period is one to seven days, the average being three and one-half days after exposure. The onset is sudden with a chill, and fever, headache, general pains, malaise, and prostration, giving the first impression of "flu." Fever is always present and continues for two or three weeks. Weakness, loss of weight, sweats, chills and prostration characterize the active stage of the disease. A skin eruption may be present on any part of the body at any stage and in almost any form. There is tacchycardia, enlargement of spleen and liver and mild lymphocytosis from 3 to 35 thousand.

The primary lesion is most frequently found on the hands or fingers and manifests itself as a painful swollen papule which breaks down, leaving a punched out ulcer, which has little exudate and is indolent in healing. The virus proceeds from the ulcer via the lymphatics to the regional lymph glands which become rapidly enlarged and painful and may suppurate. This has been called the ulceroglandular type and accounts for the great majority of the cases.

Sometimes the infection is transferred by the fingers from rabbit tissues or from crushed flies or ticks to the conjunctiva. This, then, becomes the seat of the primary infection and causes regional lymph—node enlargement—preauricular, submaxillary, parotid and cervical. This is called the oculoglandular type, with symptoms of photophobia, lacrimation, swollen lids, injection of the conjunctiva, followed by multiple yellow papules on the palpebral portions which break down into shallow ulcers. Recovery without complications is the rule.

In 85 per cent of the cases the portal of entry can be identified. In the other 15 per cent the portal of entry cannot be located. In some of these there is a pronounced general adenopathy and these have been classed as the glandular type. The remaining cases which present no conspicuous glandular enlargement are called the typhoid type. These usually occur among laboratory workers. The exact method of infection in these cases without a primary lesion is still a matter of doubt. The following suggestions have been made—ingestion, inhalation, or by way of the skin without producing a lesion.

Diagnosis

The bacteriological and serological examinations of the blood absolutely confirm the diagnosis. Agglutinins in high titer appear early in the disease. The only precaution is that occasionally there is cross agglutination with B. abortus and B. melitensis. Syphilis, typhoid fever, miliary tuberculosis, influenza, Hodgkin's, and malaria must be differentiated from tularemia. A careful history usually clears the diagnosis.

Course

The course of the disease is irregular and convalescence is slow. It is unusual for a patient to return to work after one month. Usually weakness and debility are present into the second and often the third month. The immediate prognosis is good, the mortality being on the whole under 5 per cent, although in small series it has been reported as high as 15 per cent.

Immunity

One attack confers permanent immunity. There is no record of a second attack in man.

Prevention

Prophylaxis is of utmost importance among those who handle rabbits, hunters, butchers, housewives, and laboratory workers. Rubber gloves afford excellent protection. Infected meat is rendered safe for food by thoroughly cooking. Refrigeration for ordinary periods does not kill the organism. Legislation designed to prevent the spread of tularemia, by restricting the purchase and sale or handling of wild hares and rabbits, has been enacted in at least three states—Connecticut, New Hampshire and Ohio.

Treatment

At present there is no recognized specific cure for this infection and must be treated along symptomatic lines. Rest in bed is most important. Convalescent serum from recovered patients has been tried. Foshay has prepared an antiserum from goats and horses for intravenous use in man, but the number of cases treated is too small to permit a comparison with the favorable results in patients who did not receive any special treatment. Incision and drainage of obviously softened and broken-down lymph nodes is always indicated.

Sulfanilamide has been administered both alone and in conjunction with serum treatment. Toman, Jan. 1940, reported treating successfully a case with the drug. Hadley, in Feb. 1940, gave 30 grains daily to a case. A rash, due to the drug, occurred and medication was suspended. The patient ceased to improve and when the rash disappeared sulfanilamide was resumed. Improvement was again manifest and the patient recovered. Curtis, in J. A. M. A., July 22, 1939, reported the cure of a case with sulfanilamide therapy.

As far as we are aware, there is only one report in the medical literature on the use of sulfathiazole for the treatment of tularemia. Weilbaelcher and Moss (New Orleans Medical and Surgical Journal, 92:694, June, 1940) treated a 30-year-old negro with this drug. Administration of the drug was discontinued because of a marked granulocytopenia. However, there was observed a definite clinical improvement in the course of the disease. They treated 4 other cases with sulfamethylthiazole (this preparation was a research product but investigations have been discontinued because of the incidence of peripheral neuritis). Recovery was complete and uneventful in 3 cases, the fourth case terminated fatally. The writer wishes to report a case treated in April, 1940, with sulfathiazole. Sulfanilamide was given 45 grains daily for 4 days with no effect. Sulfathiazole was then instituted with a prompt subsidence of all symptoms within 48 hours and an uneventful recovery.

This case, of a negro woman 30 years of age, gave a history of finding a dead rabbit in the snow and of cleaning it for dog meat on January 9, 1940. While cleaning the rabbit she accidentally stuck a bone in the palmar surface of the right thumb. An indolent ulcer resulted which did not heal for a month. The epitrochlear and axillary glands became markedly enlarged and tender, with the overlying skin a dark red. The course of this disease was characteristic—chills, fever, aches and pains, malaise, marked dehydration and anemia. I first saw her March 30, 1940, when she had a temperature of 102.4. The agglutination test for tularemia was positive. She was put on 45 grains of sulfanilamide in 24 hours and this continued daily for five days without any change in the clinical course. This form of chemiotherapy was discontinued and sulfathiazole established. Three grams of the drug was given at initial dose and 1 gram repeated every 4 hours day and night for four days; then ½ gram every six hours for four days. After the first 48 hours of this régime the patient states she had a profuse sweat, the fever left, the aches and pains cleared, the appetite was regained and she had an uneventful recovery.

In summarizing, I wish to re-emphasize that tularemia is primarily a disease of the wild life which acts as a potential reservoir of the disease for human infection.

The disease is increasing in the United States, cases having been reported in each state of the Union.

One attack confers permanent immunity.

Prevention by the wearing of rubber gloves and the thorough cooking of the meat of the rabbit and wild hare which are the source of 90 per cent of human cases.

There is no recognized specific cure. Symptomatic treatment with rest in bed, antitularemia serum, sulfanilamide and sulfathiazole are undergoing the test.

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HOSPITALIZATION AND MEDICAL CARE FOR THE INDIGENT

The medical and hospital profession of Mississippi has for some time been interested in the care of the indigent sick in our state. The solution to the problem has not been reached to date or recognized by all who are associated with the program. Many forward steps have been made under the guidance of the State Medical Association and the State Hospital Association in the past few years. Untiring effort has been put forth by many of the members of each association without reservation. Anderson, Philpot, Street, Caldwell, Nobles, Lippincott, Culley, Gardner and Darrington are a few who have worked unreservedly for the interests of the indigent program. They are to be complimented on the untiring effort put forth in securing the many advantages that have been secured for the poor people of the state. Yet with all this effort, the indigent sick now are not getting the care we all believe they are entitled to.

Everyone recognizes the fact that the very poorest person when ill is entitled to the very best of care. Most of the hospitals of our state are well equipped to care for all types of cases, but many cases requiring highly specialized nursing, hospital and medical care, such as urological, ophthalmological, orthopedic and malignant tumor cases cannot be cared for in the small rural hospital. They must be sent to larger hospitals which handle these cases more frequently where the training for the personnel is sufficient and where the training of the doctors who handle the cases is more sufficient and where the expensive equipment required is obtainable. It is not hard then to see that our present program of caring for the indigent sick in rural hospitals is not adequate. The average simple fracture and the average simple surgical case can be given adequate care. The surgeon, of course, is uncompensated for his splendid services except by the **good Lord alone**. This system is fairly good as far as it goes, but it is insufficient in its scope. The hospitals are paid a minimum fee to care for these cases, the hospital employees are paid their monthly wage to care for these people, but the doctor goes uncompensated. The system we have is incomplete, even with our five state charity hospitals at present well managed and handled by the state and appointees of the governor. Yet there is a great duplication of effort and personnel. Five superintendents are needed, five superintendents of nurses, five surgical nurses, etc. To eliminate the duplication of effort and personnel we need to consolidate these hospitals or distribute them more equally over the state. We need one large, well equipped, well managed and well run hospital, centrally located to serve the state of Mississippi in its care of the indigent. We need to study, evolve and erect a plan for the care of the indigent sick in this state; to secure adequate hospital care, as well as medical and surgical care, by competent men who will be compensated in part for their services rendered.

Let us start a "Forum" in our State Medical Journal, THE MISSISSIPPI DOCTOR, so ably published by Dr. W. H. Anderson, on the care of the indigent sick, both medically and from a hospitalization standpoint so that we may consolidate the opinion of the profession.

—L. W. L.

MID-SOUTH POSTGRADUATE MEDICAL ASSEMBLY

The Mid-South Postgraduate Medical Assembly will hold its fifty-sixth annual session at the Peabody Hotel, Memphis, on February 11-14 inclusive. Twenty-three essayists are listed for this four-day and night session. They come from the outstanding authorities in medicine from North America. For a rapid epitomized review of the field of medicine there is no association in this country that surpasses the Mid-South. The round table discussions are especially good. The fellowship with other doctors is unusually good in Memphis. The doctors of Memphis are most cordial and friendly. They know how to make you feel at home. The hotel accommodations in the bluff city are very fine. It is good to breathe the medical atmosphere of this Southern city for a few days, to feel the inspiration of its Southern culture, and the throb of its commercial progress.

The scientific program this year is fine. The Past-Presidents Club will meet nearly a hundred per cent strong and it will have a joyous time of good fellowship, reminiscences, and future planning for the Mid-South. Keep your dates in mind and make your plans to attend this medical feast.

You will note a list of the exhibitors in this issue for the Mid-South Postgraduate Medical Assembly. You should show your appreciation to them by calling on them at the meeting and leaving your name and address. The exhibitors have been a big factor in building the Mid-South to where it is now. The Mid-South is now able to pay the expenses of its essayists to and from the meeting. Dr. Gilbert Levy deserves much credit for building up the exhibits. He is the essence of courtesy and efficiency. The exhibitors, with vision of service along with the medical profession, can teach the doctor much. It would be very difficult to go forward without them. Let us extend them a cordial hand of co-operation.

Even yet a few doctors, especially the higher powered specialists, are able to extract some fancy fees from their clientele. We would not say that even then they are overpaid, except in comparison with the practitioner. It does not do much to promote good fellowship in the profession for one man to receive a thousand dollars for an operation and another with a little less equipment and technic, but withal perhaps, more surgical judgment, receive a hundred dollars or fifty or even ten for a like operation. It is discouraging to even distribution of medical services.

The doctors and the people of Northeast Mississippi regret very much that Dr. Price Ivy had to close his hospital on account of his health. For more than twenty years he operated his hospital to the satisfaction of his fellow doctors and to the benefit of his clientele. It is hoped that he may soon be able to return to his work, as his splendid ability is needed in that section.

We congratulate Dr. Hunter Scales, Jr., on his election as president of the Northeast Mississippi Thirteen Counties Medical Society. He will handle the presidency in fine order. Dr. A. J. Stacy, of Tupelo, remains the very efficient secretary.

We offer our sincere sympathy to Dr. R. O. Rychener, of Memphis, in the loss of his father, N. J. Rychener, of Archbold, Ohio, who died on December 18.

We offer our deepest sympathy to Dr. P. W. Rowland, of Oxford, in the loss of his wife, Mrs. Eugenia Herron Rowland, who died Dec. 6.

Recently we attended medical meetings at Vicksburg, Jackson, and Hattiesburg. For many years Vicksburg has blazed the way in progressive medicine in this annual meeting in December. Around the Streets and the Johnstons this society has developed a fine medical atmosphere charged with progress and safe with medical integrity. The December meeting was held at the country club. The fine attendance of the Medical Auxiliary was really the chief feature. Vicksburg is very rich in auxiliary talent.

The Central Medical Society held a fine meeting in December. This society has really traveled places with outstanding programs the last two years. It has made history for Mississippi and the South as to that. The Public Health Association held its annual meeting at the Robert E. Lee with Dr. W. H. Cleveland as president. The program was one of the best we have known about and the attendance far surpassed our state meetings in this respect. Our Public Health organization certainly clicks with efficiency.

The South Mississippi Society held its meeting in the Forest Hotel. The doctors of Camp Shelby had charge of the program. They did it in fine style. Col. Smith is the doctor in charge and it is certainly good to know him. All the men at the camp impressed us as being very able and they were most cordial. Col. Smith discussed briefly the plan being used out at the camp for handling venereal disease. This plan is working wonders. We think the medical profession should give him full co-operation. We are looking forward to having a large number of doctors from the camp at the state meeting next May. Dr. B. T. Robinson, of New Augusta, is president of this society. He certainly has the professional mind the medical soul and the missionary heart. Hattiesburg is on a big boom and the doctors are meeting the situation in every way.

State medicine has been on the tongue of almost every member of our profession in this country, even when only two or three have come together for the last few years. The subject has deserved much talk and serious consideration. State medicine has been in vogue in the European countries to prove its inefficiency. Both the people and the medical profession who have participated in the regimentation system realize this. The supreme struggle for democracy that is in process the world over has helped to turn liberty-loving people away from state medicine. State medicine is the tool of a Hitler, but should never be sanctioned by a democratic president of the United States. We believe it will not come for many years, provided the medical profession does its part. Regimentation of the people without choice of physician is the heart of state medicine, striking at the inner soul of medical democracy.

Now, since the winner and the loser for the presidential nomination both expressed themselves against state medicine, the green light is on for the profession to broaden its scope of service and to make it more available to the masses. Of all professions we think medicine has been most progressive, but even so it is not living up to its opportunities. All the people who are able to pay may be receiving some form of medical care, heavy doses of sulfanilamide and treatment for syphilis at any rate. But in the broad sense of constructive health plans for a bigger volume of human life made more resistant to disease, stronger in physical strength and more gigantic in mental power, the profession has not capitalized on its opportunities. More medical vision and less false timidity called medical ethics might help.

Uniform medical service must be available to all the people. The charity case should be a special charge to the doctor. He more than any other one should be able to say why he is charity and offer advice to help remove him from this class. The medical profession should endeavor to advise poor people how to eat vitamins rather than to prescribe them in expensive form. It is time for the doctor to rise above a purely scientific commercial-house guinea pig interest in his patient. There is an urgent need for a more equitable distribution of doctors, and the profession should find a way to adjust this without being placed under military orders. Mississippi has about fifteen per cent less doctors than it had fifty years ago although its population has about doubled. Forty-two per cent of its doctors are past sixty years of age. In some counties there is only one doctor to four thousand people, against the average in the United States of one to less than eight hundred. Furthermore, Mississippi has fifty per cent colored population. The death rate for colored in the United States is 15 per thousand, while the average for the entire population is 11.2. The medical profession has been unwilling to shoulder any of the responsibility for poverty in this country. And although legally not obligated, the medical profession knows that the consumption of alcohol as a beverage is responsible for one-half the deaths from automobile wrecks out on the highway, about twenty thousand per year and more than a half million injuries. It knows or could know that it is responsible for one-half the venereal disease of which the press and laity are now making so much ado. It knows or could know that the consumption of alcohol has much to do with mental sickness and poverty and suicides, which in the United States exceed by several thousand the deaths from appendicitis. The estimated annual cost of alcohol amounts to $150 per family in the United States—ample allowance for all doctors' and hospital bills, with some left. Its consumption lowers the physical and mental efficiency of a people, chokes their vision, and dissolves the marrow in the backbone of their bravery. False ethics and selfish reluctance may lead us away from these big medical problems, but we must sooner or later meet them if we are to go up and possess the land of opportunity flowing with milk and honey in service to the human race.

The fourth quarterly meeting of the Thirteen Counties Medical Society was held in Tupelo on the tenth of December. It has been the custom of this society for a number of years to hold its December meeting in Tupelo, and these meetings are always good. Tupelo is centrally located and easily accessible to all the members. Besides this, the welcome and hospitality that are always extended by the doctors and citizens of that splendid town are hardly to be equaled. The Thomas, Kincanon and Elkin Drug Company furnished us a splendid banquet for the occasion. These entertainments are as fine as can be imagined. It goes with emphasis, that they are greatly appreciated by the society members. The scientific program was very fine. The first paper was presented by a local dentist, Dr. Nash. The paper was well prepared and well presented. It dealt with oral sepsis and the bearing these conditions have on general health. A very splendid paper was read by Dr. M. Q. Ewing. It stressed the crying need of conservatism in surgical approach to gallbladder conditions. He called attention to the fact that surgery is so frequently of no benefit whatever to these people and cautioned against promising relief to any of them. He, frankly, admitted that in the early days of his work that he had, all too frequently, made such promises and had, to his chagrin, and the patient's hurt, found that nothing good had resulted. This paper was listened to with deep interest and it was very evident that it met with the approval of a great majority of the members present. An excellent paper was presented by Dr. Ward, of Jackson. Dr. Ward was reared in our territory and he said it afforded him much pleasure to "come back home" for the occasion. The fact that he was more than welcome and that his paper was appreciated was very evident. Dr. Pride, of Memphis, was on the program and it is not necessary to say that his lecture was very fine (his lectures always are) and that it was highly appreciated. There was not a dull or tiresome moment during the rendition of the program and the fellowship manifested was delightful. Dr. Harvey Scales, Jr., was elected president for the next year. Dr. Stacy was re-elected secretary. I am sure that the work will be well done and will prosper under their leadership. While the doctors were holding their meeting, the Ladies' Auxiliary was in session at the Country Club. I have been told that this meeting was satisfactory in every respect. Mrs. E. C. Parker, the president, was there—also Mrs. D. J. Williams. It is a long drive from Gulfport, their home, to Tupelo, but their interest and enthusiasm in the work is equal to any effort that may be necessary to further its promotion. It is most gratifying to see the interest that the wives of our members are taking in organized medicine.

* * * *

I have had the privilege and pleasure of reading Dr. Seale Harris' CLINICAL PELLAGRA—this book is fresh from the press of C. V. Mosby Co. This book seems to be the latest, if not the last, word on this most important subject. The work is characteristic of the man. It is scientific, thorough and simple. The arguments and presentations are honest and convincing. The subject treated is of vast and increasing interest to both laymen and physicians. I earnestly advise every reader of this journal to procure a copy of this great book and to study it carefully. It will surely repay the cost both in time and money.

* * * *

1940 is dying—1941 is knocking at our doors. I hope that every doctor in Mississippi (and elsewhere as well) has realized some happiness and a fitting degree of prosperity during the dying year and that 1941 will bring even more of joy and satisfaction. Out of an experience of several decades, the writer has come the conviction that doctors, as a group, constitute the finest and best of my fellowmen. Of course, toil and hardships come to them, but as a rule they meet them like real men.

And in this fact and the knowledge of it, lies honor, pleasure and satisfaction. Again, in closing, let me wish each of you a pleasant and prosperous new year.

—G. S. B.

THIRD ANNUAL CONGRESS ON INDUSTRIAL HEALTH

Industrial health is of exceptional interest at this time when national preparedness depends so greatly on industrial production. The attention of physicians is called to the program of the Annual Congress on Industrial Health published in the Organization Section in this issue. This will be the third of these meetings sponsored by the Council on Industrial Health of the American Medical Association. They are designed to acquaint the physician and others with the rapidly expanding importance of preventive medicine and surgery applied to industrial organization.

Since every man hour of production is vital at this time, the program of the congress is intended to be as helpful as possible to physicians called on to control those factors which in the past have contributed greatly to the incidence and costs of industrial absenteeism. In the field of trauma the hand and the eye have proved to be particularly vulnerable. Symposiums have therefore been developed to present the best current opinion on the management of these costly forms of industrial disability. Of the occupational diseases, dermatitis has long been recognized as the most troublesome. A series of demonstrations has been planned to include discussion of the criteria for diagnosis of industrial cutaneous disorders as well as accepted methods for the treatment and placement of susceptible employees. Among non-occupational diseases the common cold and influenza annually exact an enormous toll through loss of earning capacity and disruption of production schedules. This problem also will be discussed from the point of view of the essential economics, the possibilities of control through air conditioning and the role of the physician in industry and in private practice. Since many able-bodied men will probably be inducted into military service, industry may need to recruit workers from the physically handicapped and from the aging groups. These developments, of enormous medical and social significance, will be featured at the congress. Assignment of this type of worker into industry with proper consideration of physical ability and mental aptitude will be fully considered. Concern has been expressed about the availability of trained personnel in industrial health, the subject of an early resolution by the Committee on Medical Preparedness of the American Medical Association. A session will be devoted to determining what shortages exist and the best means for correction. It is hoped that concrete proposals for better training for the industrial nurse, the hygienist, the safety engineer and the physician in industry may grow out of these discussions. A means will also be provided for the interchange of experience and results of recent activity by committees on industrial health in state and county medical societies.

The congress promises to provide an unusual opportunity to the medical profession to grasp a sense of its potential contribution to improved physical well-being among the employed population.—Editorial, A. M. A.

BOOK REVIEW

Methods of Treatment, by Logan Clendening, M.D., and Edward H. Hashinger, M.D., seventh edition, 997 pp., 138 illustrations. Published by C. V. Mosby Company, St. Louis, Mo. Price $10.00.

To this excellent book on methods of practice have been added new sections on the uses of sulfanilamide, backache, peripheral vascular diseases, deficiency diseases and anesthetics. Two experts, Dr. Lawrence E. Wood and Dr. John S. Knight, have prepared the sections on artificial pneumothorax and diseases of the esophagus.

The outstanding merit of this book is the manner in which instructions for applying the methods discussed are combined with pharmacology. The disease is followed right on through technic for treatment, with drugs advised. Divided into two parts, the first half of the text describes the procedure under anesthetics, radiotherapy, dietetics, etc.; the second half takes up the application with the results expected from each disease, grouped under diseases of respiration, infection, metabolism, the blood, glands, nervous system, etc.

Dr. Clendening's books are personalized. Not even in the most formal texts can he down his genial consultant's attitude. Reading with him is next to talking with him. The conciseness aids greatly in the value of the book as a quick reference; its comprehensiveness places it among the most favored of texts by practitioners.

News and Comments

Dr. D. C. McCool, psychiatrist, of Memphis, was the principal speaker at the Ladies' Night banquet given by the Alcorn County Medical Society, Corinth, at the Waldron Hotel on Dec. 20.

Miss Irma Lee Barnes and Dr. I. W. Barrett, both of Clarksdale, were married on Dec. 24. Dr. Barrett has operated the Barrett Clinic in Clarksdale for about 10 years. He was formerly associated with the Crisler Clinic at Memphis. Miss Barnes has been technician at the Barrett clinic for several years.

The new hospital at Louisville held its formal opening on Monday, Dec. 30. Hundreds of visitors thronged the new building to express admiration and appreciation. Dr. and Mrs. W. B. Hickman and Dr. and Mrs. J. A. Crawford received the guests who were shown over the entire new unit. Punch was served to all visitors.

Dr. Henry F. Thompson, of Bearden, was elected president of the Ouachita County Medical Society held in Camden, Ark., on Dec. 8. Dr. H. A. Thompson, of Camden, was elected vice-president and Dr. R. B. Robins, of Camden, re-elected secretary-treasurer.

At a recent election of the Masonic Lodge at Ecru, Miss. Dr. E. B. Burns was elected Worshipful Master.

Dr. E. J. Stroud, of Jonesboro, Ark., is a newly elected member to the Board of Directors of the Chamber of Commerce to succeed Dr. Ralph M. Sloan, who was called up for army duty.

Dr. Paul T. Haney, director of the Jones County Health Department, is planning to launch an intensive campaign to eradicate hookworm from Jones County shortly after the first of the year.

A portrait of Mrs. Matty Hersee Wright, founder of the Matty Hersee Hospital, was unveiled at the hospital Dec. 21. Mrs. J. H. O'Neil unveiled the portrait; Mrs. Levi Rothenberg presented it to the hospital, and Dr. C. M. Cully, superintendent of the hospital, accepted the portrait.

At a meeting of the Colbert County Medical Society on Dec. 12, at Tuscumbia, Ala., Dr. W. M. Pierce was elected president of the Colbert County Medical Society; Dr. W. H. Blake, vice-president; Dr. R. E. Harper, secretary-treasurer; Dr. R. E. Gary, member of the Board of Censors, and Dr. G. F. Littlepage, member of Hospital Advisory Board.

New staff members of the Lafayette County Health Unit are Dr. T. L. Owings, of McComb, director; J. C. Thompson, of Poplarville, sanitary supervisor; Mrs. Ella Sayle, nurse, formerly of Cleveland; Miss Marion Tauzin, nurse, formerly of Greenwood; and Miss Inez Burns, of Oxford, clerk.

Dr. W. R. Best died at the home of his daughter, Mrs. J. F. Collier in Greenwood, on December 12. He was 80 years of age. The remains were carried to old Bethel cemetery near Charleston for interment. Dr. Best is survived by three sons, one daughter, a brother and a sister.

Dr. E. M. Nixon, director of Mississippi County Health Unit, has resigned to enter private practice in Little Rock, where he will be associated with Dr. Joe T. Shuffield, orthopedic surgeon. Dr. Nixon is a graduate of the University of Arkansas School of Medicine.

Dr. Fred G. Hames was elected president of the Jefferson County Medical Society at the meeting in Pine Bluff, Ark., on Dec. 3. Dr. J. W. John, vice-president; and Dr. Allen R. Russell, secretary. Dr. Havis T. Capel is the retiring president.

Dr. M. E. Blanton, of Jonesboro, is the newly elected president of the Craighead-Poinsett Medical Society.

Dr. D. W. Hamrick, prominent eye, ear, nose and throat specialist of Corinth, Miss., has been appointed as the authorized physical examiner for the CAA. The appointment came from the CAA medical director Washington, D. C.

Dr. M. M. Sims, former director of the Lafayette County unit has gone to Camp Blanding in Florida, and Keith Smith, sanitary supervisor, sanitary inspector, has been transferred by the State Health Department to Bolivar County.

Dr. O. K. Hukil died at his home in Egypt, pneumonia. He had been suffering with influenza several days but had continued to make calls and be at his office. Dr. Hukil practiced at Hot Springs, Walnut Ridge and at Egypt. He is survived by his wife, Mrs. Sue Rogers Hukil, and one sister.

Dr. E. M. Nixon, director of Mississippi County Health Unit, Blytheville, Ark., has resigned to enter private practice in Little Rock. He will be associated with Dr. Joe T. Shuffield, orthopedic surgeon. Dr. Nixon is a graduate of the University of Arkansas School of Medicine.

Dr. M. E. Blanton, of Jonesboro, Ark., has been elected president of the Craighead-Poinsett Medical Society.

Dr. H. L. Scales, Jr., of Starkville, was elected president of the Thirteen Counties Medical Society at the annual meeting in Tupelo, on Dec. 10. Dr. A. J. Stacy, of Tupelo, was re-elected secretary.

Dr. M. M. Sims, of the Lafayette County Health Unit, has resigned to enter military service for one year. Dr. T. L. Owing, of Poplarville, will succeed Dr. Sims. Dr. Robert L. Simmons, of Meridian, will take Dr. Owing's place and Dr. David May will replace Dr. Simmons as Lauderdale County's assistant health officer.

Dr. J. W. Bodley, of Memphis, has been presented a "Thousand Club" medal by the Memphis American Legion Post No. 1, in recognition of his obtaining 1000 new members during a membership drive. This medal is the first to be made to any Legionnaire in Tennessee.

Guests of the Thirteen Counties Auxiliary, which met at Tupelo on December 10, included Mrs. E. C. Parker, of Gulfport, state medical auxiliary president; Mrs. Dan J. Williams, of Gulfport, and Mrs. W. K. Stowers, of Natchez, state auxiliary officials. The Four-County Medical Auxiliary headed by Mrs. M. M. McMillan, of Guntown, was host. Mrs. Bernard Patrick, of Corinth, district president, is succeeded by Mrs. I. P. Burdine, Jr., of Amory.

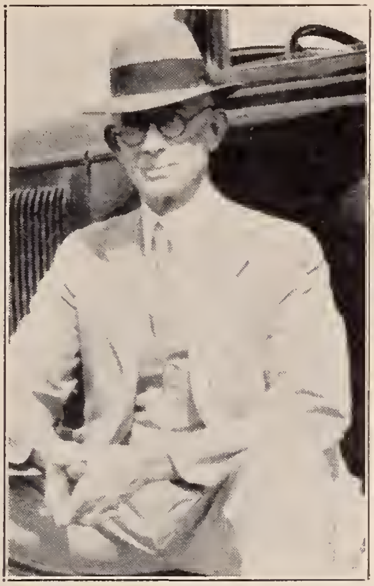
Dr. Henry F. Thompson, of Bearden, Ark., was elected president of the Ouachita County Medical Society held at Camden, Ark. Dr. S. A. Thompson, of Camden, was elected vice president and Dr. R. B. Robins, of Camden, re-elected secretary-treasurer.

At the annual meeting of the Jefferson County Medical Society, at Pine Bluff, Ark., Dr. Fred G. Hames was elected president; Dr. J. W. John was elected vice-president, and Dr. Allen R. Russell elected secretary. Dr. Havis T. Capel is the retiring president.

Dr. W. M. Pearce was elected president of the Colbert County Medical Society which met at Tuscumbia, Ala., on Dec. 12. Dr. W. H. Blake, vice-president; Dr. R. E. Harper, secretary-treasurer; Dr. R. E. Gary, member of board of censors, and Dr. G. F. Littlepage, member of Hospital Advisory Board.

Dr. R. N. Whitfield, director of the Vital Statistics Division of the State Board of Health, was the unanimous choice for the president-elect of the Mississippi Public Health Association at its meeting held in Jackson, Dec. 10, 11, 12. Mrs. W. B. Purser, secretary to Dr. Whitfield, was given the state clerical award and the secretaryship of the State Vital Statistics Section. Miss Opal Regan, Meridian, assumes the presidency, and Dr. W. H. Cleveland, of Tupelo, becomes vice-president. Dr. C. C. Applewhite, former Hinds County Health Officer and present surgeon of the U. S. Public Health Service, New Orleans, was elected to honorary membership. Dr. J. W. Dugger director of industrial hygiene of the State Board of Health, succeeds Dr. H. B. Cottrell as chairman of the administrative section. Miss Margaret Mead, R.N., of the State Board of Health, was elected president of the Public Health Nurses. Dr. H. C. Ricks, State Medical Laboratory director, was elected chairman of the laboratory section. Miss Josephine Hahn, of Laurel, was elected chairman of the dental hygiene section. Mrs. Gladys Beeman, Newton, was chosen head of the vital statisticians, and Miss Sarah Shanks, of the State Board of Health, was elected as chief of the clerical section. Miss Mary Addie Foster, Corinth, is the new secretary.

DR. WALKER DIES AT MAGEE



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Dr. E. L. Walker, of Magee, who died December 18, 1940, at the age of 67 years. He graduated in medicine in 1900 from the University of Nashville, having been licensed to practice in Mississippi the year before. He was a native Mississippian, born in Simpson County in 1873. Mrs. Walker preceded him only a few months. He is survived by four sons. Dr. Walker was a member of the Baptist Church, of Magee, where he practised medicine for forty years. Only a few years ago he served as president of the Central Medical Society. He was outstanding as a general practitioner, able in information, safe with caution and sound in judgment. His heart, mind and soul were in his practice and for his people. The medical profession, church, and state lost a useful man and a noble spirit in the death of Dr. Walker.

INVITATION TO PAST-PRESIDENTS

To the Past-Presidents of the Tri-States Medical Society and the Mid-South Postgraduate Assembly, I extend each a most cordial invitation to be my guest at the Past-Presidents' Club Dinner during our meeting in February. A notice as to the exact date and hour for this dinner will be mailed you.

May I urge each of you to insist on your physician friends to attend this meeting? We have an excellent program for this year, and I feel like it will be four days well invested. You have an opportunity to see your old friends and make new acquaintances. There will be several social functions extended by the genial and hospitable physicians of Memphis.

Let's make this meeting one of the best and most profitable by attending yourself and bringing as many with you as you can. I hope to see each of you personally at this meeting. Make my room your headquarters; I will try to take care of your wants. I will look forward to seeing you at this meeting.

J. L. Dunavant, President,
Mid-South Postgraduate Medical
Assembly.

DR. H. W. CURRY ELECTED

Dr. H. W. Curry, of Eupora, has been elected president of the Winona District Medical Society, succeeding Dr. T. J. Brown. Dr. S. B. Caruthers of Grenada was re-elected secretary.

Vice-presidents and delegates elected to the state medical meeting were: J. A. Pender, Attala County; C. H. Ingram, Holmes County; M. E. Arrington, Carroll County; R. A. Clanton, Grenada; E. C. O'Cain, Montgomery; Hugh K. Curry, Webster; and H. H. Tabor, Choctaw.

Dr. Pender and Dr. O'Cain are vice-president holdovers, while retiring vice-presidents are Drs. E. C. Rouse, Grenada County; E. F. Arnold, Webster; R. C. Elmore, Holmes County; C. H. Holman, Carroll County; and J. James, Choctaw County.

THIRD ANNUAL CONGRESS ON INDUSTRIAL HEALTH

Arrangements have been completed for the third annual Congress on Industrial Health sponsored by the American Medical Association, which will be held Monday and Tuesday, Jan. 13 and 14, 1941, at the Palmer House in Chicago. Sessions will be held on important phases related to industry, such as hand injuries, personnel, and ophthalmology.

These meetings are open to all physicians and others interested in the industrial health movement. There is no registration fee.

Dr. G. O. Garner, head of the Noxubee County Health Department, at Macon, has resigned to accept a position with the Marine Division of the Standard Oil Co., of New Jersey, with offices in New York.

Dr. Everett W. Ryan, director of the Tallahatchie County Health Department, has returned from Vanderbilt University where he took a three months' course in public health and venereal disease control work.

Dr. John Harbour McBee, retired physician, died at his home in Greenwood, Dec. 14, following a heart attack. Dr. McBee was born in Lexington and received his preparatory education. He was graduated from the University of the South at Sewanee, Tenn., and received the M.D. degree from Tulane University to take up commercial interests in Memphis. He is survived by his wife, five sisters and three brothers.

COURSES IN INTERNAL MEDICINE

Reports from Clarksdale about the course in internal medicine just completed there, indicate that it was as well received as at Senatobia.

Beginning January 6, Dr. W. A. Sodeman will spend a week in Natchez, and the surrounding counties, giving lectures there Monday, Wednesday and Friday, and beginning January 13, Dr. J. L. Wilson will spend a week in Natchez and vicinity, and will give lectures on Monday, Wednesday and Friday of that week.

This program will be repeated in McComb and surrounding territory, beginning Monday, February 3, for Dr. Sodeman, and Monday, February 10, for Dr. Wilson.

THE THIRD ANNUAL FORUM ON ALLERGY

In response to an apparent demand, the Annual Forum on Allergy was founded three years ago by a group of outstanding allergists in the Middle West, to afford a forum in which to review the progress of clinical allergy. Annual meetings have been held in Toledo, Ohio, and Chicago, Ill. This year the meeting will be held at the Claypool Hotel in Indianapolis on Saturday and Sunday, January 11 and 12, 1941. This offers to the internist, the pediatrician, the dermatologist, the otolaryngologists, and all other physicians an opportunity to bring themselves up to date in this field of medicine over a single week-end. All physicians in good standing in their local medical society are most welcome. Men eminent in the field of allergy from all parts of the nation will appear on the two-day program. There will be a small registration fee of five dollars.

THREE QUARTERS OF A CENTURY FOR PARKE, DAVIS & COMPANY

The year 1941 marks the Diamond Anniversary of the founding of Parke, Davis & Company, a firm which had its inception in a small drug store in the city of Detroit, Mich., and which, during the past seventy-five years, has become the world's largest makers of pharmaceutical and biological products.

From the very beginning, back in 1866, Parke, Davis & Company has engaged in research work with the object of making available to pharmacists and physicians, medicinal preparations of the highest degree of accuracy.

Since the turn of the century, progress of the company has continued apace. An aggressive program of research has been zealously pursued, marked by the introduction of such important products as adrenalin, ventriculin, theelin, pitocin, pitressin, mapharsen, neo-silvol, antuitrin-S, meningococcus antitoxin, dilantin sodium, and many others. Diversified research activities cover the major phases of medical treatment—including the endocrine, biological, vitamin, and chemotherapeutic—and new discoveries are carefully evaluated through the company's extensive facilities for clinical investigation.

MID-SOUTH POSTGRADUATE MEDICAL ASSEMBLY — MEMPHIS, TENN., LIST OF EXHIBITORS OF 1940

Mr. F. H. Green, The DeVilbiss Company, Toledo, Ohio. Space 1.

Mr. T. A. Nooner, Bilhuber-Knoll Corporation, Orange, N. J. Space 2.

Mr. H. L. McKenzie, General Electric X-Ray Corp., Sterick Building, Memphis, Tennessee. Spaces 3 and 4.

Mr. Don Richards, Richards Manufacturing Company, 736 Madison Avenue, Memphis, Tennessee. Space 5.

Mr. W. N. Larson, Mead Johnson & Company, Evansville, Ind. Spaces 6 and 7.

Mr. W. H. Risley, Assistant General Sales Manager, R. B. Davis Sales Company, Jackson, Ferry and Harrison Streets, Hoboken, N. J. Space 7½.

Mr. H. W. Kinney, Scientific Sugars Company, Columbus, Ind. Space 8.

Mr. E. O. Dieckerhoff, Schering Corporation, Bloomfield, N. J. Space 9.

Mr. N. R. Shubert, J. A. Majors Company, 1301 Tulane Avenue, New Orleans, La. Space 10.

Mr. F. Kraus, Merck & Company, Inc., Rahway, N. J. Spaces 11 and 12.

Mr. George W. Orr, Jr., Wm. S. Merrell Company, Cincinnati, Ohio. Space 13.

Mr. Jack Reynolds, Jones Metabolism Equipment Company, 315-323 Honore Street, Chicago, Illinois. Space 14.

Mr. R. B. Roos, The Borden Company, 350 Madison Avenue, New York, N. Y. Space 15.

Mr. John L. Hammer, Jr., Smith, Kline & French Laboratories, 105 North Fifth Street, Philadelphia, Pa. Space 16.

Mr. R. A. McCampbell, Dietene Company, 607 Fifth Avenue, South, Minneapolis, Minn. Space 17.

Dr. C. Thornton Longfellow, G. W. Carnrick Company, 20 Mt. Pleasant Avenue, Newark, N. J. Spaces 18 and 19.

Mr. G. S. Thompson, The Carnation Company, Oconomowoc, Wis. Spaces 20 and 21.

Devereux Tutoring Schools, Berwyn, Pa. Spaces 22 and 23.

Burroughs Wellcome & Company, Inc., 9 East 41st Street, New York, N. Y. Spaces 24 and 25.

Mr. J. H. Knight, A. S. Aloe Company, 1819-23 Olive Street, St. Louis, Mo. Spaces 26 and 27.

Dr. Lillian B. Storms, Gerber Products Company, Fremont, Michigan. Space 28.

Mr. L. H. Ashe, Chief, Professional Service Department, E. R. Squibb & Sons, 745 Fifth Avenue, New York City, Space 29.

Mr. Howard Goodwin, Mellins Food Company, Boston, Mass. Space 30.

Mr. Hayes Brantley, Southern Surgical Supply Company, 909 Madison Avenue, Memphis, Tennessee. Space 31.

Mr. F. M. Rhategan, Bard-Parker Company, Inc., Danbury, Conn. Space 32.

Mr. G. B. Close, Ohio Chemical Company, 1177 Marquette Street, Cleveland, Ohio. Space 34.

Mr. W. F. Greenwald. Philip Morris & Company, Ltd., 119 Fifth Avenue, New York, N. Y. Space 35.

Mr. Walter J. Cook, Winthrop Chemical Company, 170 Varick Street, New York City, N. Y. Space 36.

Mr. H. M. Richards, Union Manufacturing Company, 2537 Broad Street, Memphis, Tennessee. Space 37.

Mr. R. E. Koons, Manager of Sales, Puritan Compressed Gas Corporation, 2012 Grand Avenue, Kansas City, Missouri. Space 38.

Mrs. Miriam Zeller Gross, White Laboratories, Inc., 113 North 13th Street, Newark, N. J. Space 39.

Mr. T. A. Phillips, Sales Manager, J. B. Lippincott Company, East Washington Square, Philadelphia, Pa. Space 40.

Mr. W. F. Taylor, Lederle Laboratories, Inc., 205 Pere Marquette Building, New Orleans, La. Space 44.

Mr. Phil Wight, Abbott Laboratories, North Chicago, Illinois. Space 45.

Mr. F. S. Dieterich, The Mennen Company, Newark, N. J. Space 46.

Mr. Wm. B. Stevens, Manager, Dick X-Ray Corporation, Medical Arts Building, Memphis, Tennessee. Space 47.

Mr. J. C. Keir, Petrolagar Laboratories, 9134 McCormick Blvd., Chicago, Ill. Space 48.

Mr. W. E. Vennard, Frederick Stearns & Company, 6535-55 E. Jefferson Avenue, Detroit, Michigan. Space 49.

Mr. Harvey L. Kay, Kay Surgical, Inc., Medical Arts Building, Memphis, Tennessee. Spaces 50 and 51.

Kelly-Koett, Covington, Kentucky. Space 52.

Mr. J. H. Lawton, John Wyeth & Brothers, Inc., 1118 Washington Avenue, Philadelphia, Pa. Space 52½.

Mr. H. T. Fischer, H. G. Fischer Company, 2323-2345 Wabansia Avenue, Chicago, Illinois. Space 53.

Mr. Raymond M. Rice, Director of Professional Relations, Eli Lilly and Company, Indianapolis, Ind. Space 54.

Mr. Henry E. Ditzel, Sharp & Dohme, Philadelphia, Pa. Space 56.

Mr. C. J. Hibbard, Advertising Manager, Pet Milk Sales Corporation, Arcade Building, St. Louis, Missouri. Spaces 58 and 59.

Mr. F. B. Heard, H. J. Heinz Company, Pittsburgh, Pa. Space 60.

Mr. E. L. Mercere, E. L. Mercere, Inc., 191 Madison Avenue, Memphis, Tennessee. Spaces 209-210.

Davis & Geck, Inc., 217 Duffield Street, Brooklyn, N. Y. Space 51-A.

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WANTED: Doctor in Jourdanton, Texas, county seat town, large territory. County Health Officer, railroad surgeon available. Prefer doctor not over 38 years old. Central Drug Store.

Mississippi State Medical Association

Organized 1867

Next Meeting: May, 1941, Biloxi

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Program:

Surgery—V. B. Philpot, Houston
Hygiene and Public Health—Paul T. Haney, Laurel
Medicine—A. H. Little, Oxford
E. E. N. and T.—D. W. Hamrick, Corinth

Public Policy and Legislation:

Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. R. Brumfield, Gloster	Anderson Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	W. E. Noblin, Sr., Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Om July and August.
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	J. A. Slack, Friars Point	Guy R. Post, Clarksdale	1st Wed. March and Sec. Wed. No
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	C. H. McCall, Gulfport	D. L. Hollis, Biloxi	
Delta Medical	H. A. Gamble, Greenville	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. H. Harrison, Philadelphia	Guy T. Vise, Meridian	
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley,	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct
Northeast Miss.	H. L. Scales, Jr., Starkville	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Mississippi		Van C. Temple, Hattiesburg	
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, De
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EYE

CLINICAL STUDIES OF VITAMIN A DEFICIENCY, Archives of Ophthalmology, October, 1940, Volume 24, pp. 698-721.

There is being discussed greatly at the present time, the diagnosis of night blindness and its relation to a deficiency of vitamin A, also the type of instruments used to measure the dark adaptation, also the results in cases where there is found a poor adaptation where large amounts of vitamin A are given is interesting. Nearly all authors of papers on this subject agree only on one thing, viz: that the Hecht adaptometer is the instrument of choice in measuring rather than the biophotometer.

The author's results pertain to: (1) an attempt to correlate the vitamin intake in the diet of medical students with biophotometer reading; (2) an attempt to produce a disturbance of vitamin A absorption and dark adaptation by giving relatively large doses of liquid petrolatum over a period of months to 28 students, using 29 others as controls; (3) an attempt to produce a disturbance of dark adaptation by a vitamin A deficient diet in 3 students, using the adaptometer designed by Hecht, and (4) the response of patients to vitamin A.

The results to the above are: (1) that there was no correlation between vitamin A intake and biophotometer readings in medical students. (2) The administration of liquid petrolatum over a long period of time failed to produce vitamin A deficiency or other unfavorable effects. (3) A diet containing only 74 U.S.P. units of vitamin A daily failed to produce measureable visual evidence or subjective signs of vitamin A deficiency in 3 subjects. (4) Doses of 300,000 units daily for as long as four months failed to show any harmful effects in the 3 experimental subjects on the deficiency diet regimen. The same dose occassionally failed to improve the dark thresholds in 10 patients suspected of having vitamin A deficiency.

"In view of the fact that several observers have reported a probable vitamin A deficiency among the general population, amounting in some areas to as high as 52 per cent, it seems advisable to consider the meaning of this. The possibilities which occur to us are, first, that the average American diet may be deficient in available vitamin A or its precursors; second, that the standard of vitamin A intake on which subjects are judged to be deficient is questionable, and third, that the procedures being used for measurement are recording something other than vitamin A deficiency. We incline toward a combination of the latter two possibilities.

COMMENT: As the measurement of dark adaptation is a subjective test it is not surprising the varied results obtained by the different observers. I do not believe that 1 or 2 tests on a person who shows poor dark adaptation on a biophotometer is enough evidence to say this is a case vitamin A deficiency, because many of these cases show no subjective signs and their dark adaptation may not be influenced by long doses of vitamin A.

—S. S. Mc.

PEDIATRICS

THE ROLE OF VITAMIN K IN THE ETIOLOGY, PREVENTION AND TREATMENT OF HYPOPROTHROMBINEMA AND THE HEMORRHAGIC DIATHESIS OF THE NEWLY BORN, W. W. Waddell, Jr., DuPont Guerry, III, and McLemore Birdsong, Southern Medical Journal, 33:974 (September) 1940.

"The writers believe that prothrombin deficiency is the immediate cause of bleeding in the hemorrhagic diathesis of the newly born and that hypoprothrombinemia is in turn associated with vitamin K deficiency."

In this report the prothrombin determinations were done after the Bray and Kelly modification of Quick's method for determining the prothrombin content of the blood.

The prothrombin times were done in 25 K-treated infants and 25 concurrent controls. "Each treated infant received vitamin K concentrate in the following fashion: 600 units by mouth on admission to the nursery; 600 units at the end of 24 hours and 600 units at the end of 48 hours."

The frequency with which prothrombin deficiency occurred in the control cases was apparent, while no deficiency was noted in the K-treated cases. "Prothrombin deficiency in the control series was most frequently observed on the second and third days and was not observed after the fifth day."

In the same group it was found that as the prothrombin time rises or falls so does the clotting time of the blood. The longer clotting times of the control cases was apparently the direct result of prothrombin deficiency.

In another group the prothrombin times were done in 24 K-treated infants and 24 controls. "In this series each treated infant received synthetic vitamin K (2-methyl-1, 4 napthaquinone) in the following fashion: 1,000 units on admission to the nursery, 1,000 units at the end of 24 hours, and 1,000 units at the end of 48 hours.

The findings were identical with those observed in the series treated with natural vitamin K concentrate. Prothrombin deficiency occurred with regular frequency in the concentrate. Prothrombin deficiency occurred with regular frequency in the control series. No prothrombin deficiency occurred in the treated series. Natural vitamin K concentrate and synthetic vitamin K appear to be equally effective in the prevention of hypoprothrombinemia of the newly born.

"As the prothrombin time rises and falls, so does the clotting time."

Believing that varying degrees of prothrombin deficiency do exist at the time of birth, and may materially predispose to intracranial hemorrhage associated with normal labor, the writers have attempted to prevent prothrombin deficiency in the infant by administration of vitamin K to the mother in the last few weeks of pregnancy.

Prothrombin times were done in 17 infants to whose mothers natural vitamin K concentrate was administered in the last weeks of pregnancy in the following fashion: 3,750 units daily for two weeks and a maintenance dose of 1,2000 units daily until delivery. The findings in these infants were compared with those of a similiar number of nursery neighbors whose mothers were not K treated. In the control cases the prothrombin deficiency in certain cases was apparent. "In the infants K treated through the mother, prothrombin deficiency was efficiently prevented."

"The clotting time keeps pace with the prothrombin time. The clotting times of the infants born of treated mothers remained at a safe and low level."

Findings were recorded in an additional series of 17 infants K-treated through their mothers, and a similiar group of nursery neighbors whose mothers were not K-treated. "In this series the mothers were given by mouth 2,000 units of synthetic vitamin K daily in the last two weeks of pregnancy or until delivery. In this series also not a single instance of prothrombin deficiency was observed in those infants K-treated through the mother.

"Synthetic K appears to be equally effective with natural K concentrate in the prevention of hypo-prothrombinemia in the newly born."

Comment: I felt it necessary to abstract the above article somewhat at length, since the administration of vitamin K to both the mother and the newborn baby as a preventive and curative agent seems to be attracting so much attention at this time.

—H. F. G.

SURGERY

Clinical and Experimental Observations on Arteriovenous Fistula, Emile Holman, M.D., San Francisco, Calif., Annals of Surgery, Nov., 1940, "Clinical and Experimental Observations on Arteriovenous Fistulate."

Dr. Holman presents nine cases of arteriovenous fistulae, all the result of gunshot or stab wounds. Seven of the fistulae involved the femoral vessels, one the brachial vessels and one the innominate vessels. All were cured by quadruple ligation of the vessels with division of the artery proximal to the fistula. Certain observations were made on these cases and were confirmed by studies on experimental animals. In a number of instances, observations diametrically opposite to those of Lewis and Drury were made, and were presented as substantiating the concepts that:

(1) An arteriovenous fistula introduces a secondary of "fistulous" circuit into the circulatory system.

(2) The lowered peripheral resistance in the secondary circuit results in a diversion of blood from the primary circuit.

(3) The diversion of blood from the normal arterial bed through the fistula into the capacious venous system proximal and distal to the fistula results in a lowering of blood pressure in the primary circuit.

(4) The general blood pressure is lowered, the diastolic pressure permanently, but the systolic pressure is gradually restored to normal by the compensatory phenomena of (a) an increased cardiac output through an acceleration of pulse rate in the presence of an increased venous filling; and (b) an increased total blood volume.

(5) The venous filling is increased as shown by an increase in venous pressure proximal to a fistula.

(6) The part of the circulatory bed common to both the primary and the secondary circuits has an increased volume of blood flowing through it.

(7) The dilatation of the part of the circulatory system occurs commensurate with the increased volume of blood flowing through it, the dilatation involving the artery and vein between the heart and fistula, and the heart.

(8) The closure of a fistula results in a reversal of all these changes, primarily as the result of the filling of the primary circuit by the blood formerly flowing through the secondary or fistulous circuit.

Dr. Holman stresses the point that an increase in blood pressure and a fall in pulse rate, even though both are small, indicates that the fistula is large and is not likely to close spontaneously, but is almost certain to produce deleterious effects upon the circulation.

It is also of interest that in the nine cases reported on, despite operations four to six hours long, blood pressure at the end of the operation was higher and the pulse rate slower than at the beginning of surgery, due probably to an auto-transfusion from circulating blood which had increased in volume during the presence of the fistula.

State Board of Health

Felix J. Underwood, M.D.

An Improved Serodiagnostic Test For Typhoid Fever and Typhoid Carriers

By Mary Ruth Smith and Maud Gober
(State Hygienic Laboratory)

A more reliable and specific serological test for the diagnosis of typhoid infections has long been in demand. The microscopic Widal test, as well as the macroscopic or tube Widal test now used, are subject to limitations which are both numerous and obvious. The conception of the diagnostic significance of this test has been altered considerably since it has become known that the typhoid organism possesses two antigenic fractions, the flagella or H antigen and the somatic or O antigen. Each of these antigens is specific in stimulating the production of antibodies in the host, whether by infection or inoculation. Thus the introduction of vaccine has further complicated the interpretation of the Widal test since the reaction in vaccinated individuals cannot be distinguished from that occurring in typhoid cases and carriers.

Many individuals with no history of typhoid fever or vaccination have been found to possess typhoid antibodies occurring normally, or due to febrile diseases other than typhoid fever. In such instances the fluctuation of agglutinin titre, considered by some as definite evidence of typhoid fever, may occur when this infection is excluded clinically and bacteriologically. As a result, it is being realized that in the interpretation of the Widal test, many factors must be considered, such as: the natural level of H and O agglutinins, the individual titres of these antibodies, the agglutinin curve, whether or not vaccine had been given, and the possibility of non-specific stimulation of antibody formation. Thus the interpretation of the Widal test has become a complicated problem.

A new serological approach was opened in 1934 when Felix and Pitt[1] described a new antigen of the typhoid bacillus which they designated as the Vi or virulence antigen. This fraction is a separate and distinct entity from the H and O antigens and in the natural state gives rise to specific Vi agglutinins in the animal or human. Since this description many studies have been made, the results of which suggest the possibility that the Vi agglutination may prove to be a more reliable method of serological diagnosis of typhoid infection than the time-honored H and O types of agglutination. This view was strengthened by the fact that in the examination of thousands of sera from normal inoculated and uninoculated individuals by Bhatnagar[2] and others in India no Vi agglutinins could be detected. Thus the interference in the agglutination test by normal Vi antibodies and those resulting from vaccine is believed eliminated. Although the Vi antigen in its natural state produces Vi agglutinins in the animal body, the treatment of the bacteria with heat or chemicals, as in the preparation of vaccine, changes the functional or antigen properties of the organism so that the host does not respond to it in the same manner as to the unaltered bacillus. This explains the absence of Vi agglutinins in the serum of individuals who were inoculated with vaccine prepared from a Vi containing typhoid strain. Eliot[3] confirmed this finding in the United States by showing that in a group inoculated with the new army vaccine made from a Vi strain, (which is the same strain used by the Mississippi State Hygienic Laboratory), none showed Vi agglutinins.

In cases of typhoid fever Vi antibodies appear in the serum at about the same time or later than H and O antibodies and persist for a briefer period. According to Bhatnagar[4], these agglutinins can be demonstrated in every case provided the examination is made at proper intervals. Other investigators have failed to detect these antibodies in the serum of every patient, probably because of irregular sampling. The great advantage in this type of agglutination is the fact that a positive result clinches the diagnosis of typhoid fever, since there is no interference from normal, anamnestic or inoculation agglutinins as occur in H and O types of agglutination.

Vi agglutinins persist for only a limited time in the blood of recent typhoid cases. During convalescence, usually only traces of these antibodies are present in the serum. However, in some individuals high titres have been detected. Investigators have suggested that this condition connotes a tendency toward the carrier state.

The suggestion that the Vi agglutination test may be useful in the detection of chronic carriers was made by Felix, Krikorian and Reitler[5] in 1935. This suggestion prompted many investigations, the results of which, in general, show a definite correlation between the typhoid carrier condition and the presence of Vi antibody in the serum. Bhatnagar has successfully found these antibodies present in the serum of every individual excreting typhoid bacilli. As a result, he is now using this test in the routine carrier examination of large numbers of individuals and in tracing the source of typhoid infection. In one study made in the United States, Eliot[3] demonstrated Vi agglutinins in the blood of 98 per cent of the proven chronic carriers* examined.

The results of studies thus far made suggest the applicability of the Vi agglutination as a reliable method for the serological diagnosis of typhoid infection and for the detection of the typhoid carrier condition. This test should also prove to be a useful device in the epidemiological investigation of cases and in the survey of old cases. In laboratories where routine stool and urine examination are made on food handlers, the introduction of this serological test would materially reduce the labor, time and expense involved. In addition, it should result in the discovery of more carriers by making possible the bacteriological examination of multiple specimens from a selected group.

CONCLUSION

Since typhoid is definitely a major public health problem in Mississippi, there is afforded an excellent opportunity for further study and evaluation of the Vi agglutination test. If this test could be found applicable by such a study, it would be a valuable aid in the diagnosis of typhoid infections and in the detection of typhoid carriers.

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*Individuals excreting typhoid bacilli in feces, urine or bile one year or more following clinical typhoid fever.

REFERENCES

1. Felix, A., and Pitt, R. M.: New antigen of B. typhosus: its relation to virulence and to active and passive immunization, Lancet 2:186-191, 1934.
2. Bhatnagar, S. S. Freeman, J. F. and Dhilon, C. S., Nature of immunity resulting from T. A. B. inoculation; study of 'O' agglutinins in sera of inoculated human subjects and their immunological significance, Indian J. M. Research 24:597-616, 1937.
3. Eliot, C. P.: The Vi agglutination test as aid in detection of chronic typhoid carriers, Am. J. Hyg., Sect. B 31:8-15, 1940.
4. Bhatnagar, S. S.: Vi agglutination in diagnosis of typhoid fever and typhoid carrier condition, Brit. M. J., 2:1195-1199, 1938.
5. Felix, A., Kirkorian, K. S., and Reitler, R.: Occurrence of typhoid bacilli containing Vi antigen in cases of typhoid fever and of Vi antibody in their sera, J. Hyg., 35:421-427, 1935.

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Miscellaneous News

NEW OFFICERS FOR MISSISSIPPI PUBLIC HEALTH ASSOCIATION

The fifth annual meeting of the Mississippi Public Health Association, held in Jackson, December 11-13, was successfully concluded after a series of interesting papers on vital public health topics, and the following officers were elected to serve for 1941:

President	Miss Opal Regan, R.N.	Meridian
Pres.-Elect	R. N. Whitfield, M.D.	Jackson
Vice-Pres.	W. H. Cleveland, M.D.	Tupelo
Sec'y.-Treas.	Geo. E. Riley, M.D.	Jackson

SECTION CHAIRMEN

Administrative	J. W. Dugger, M.D.	Jackson
Public Health Nursing	Margaret Meade, R.N.	Jackson
Sanitation	John B. Grant	McComb
Laboratory	H. C. Ricks, M.D.	Jackson
Dental Hygiene	Mrs. Josephine Hahn, D.H.	Laurel
Vital Statistics	Mrs. C. D. Beeman	Decatur
Clerical	Miss Sarah Shanks	Jackson

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MISSISSIPPI STATE BOARD OF HEALTH MEETING, DECEMBER 13

The ten members of the State Board of Health met in the Medical Library on December 13, 1940 to consider routine business and to hear a resumé of Mississippi's health accomplishments for the five months' period prior to the meeting. The report of each division director reflected progress and many substantial gains, and plans were advanced for future activities.

The following physicians were granted licenses, by reciprocity, to practice medicine in Mississippi:

Wm. F. Bell, M.D.	Bay Springs
Charles F. Chunn, M.D.	Vicksburg
William E. Denman, Jr., M.D.	Greenwood
Roscoe Faulkner, M.D.	Batesville
Joseph F. McDonough, M.D.	Pascagoula
James A. Westerfield, M.D.	Merigold
Howard S. Williams, Jr., M.D.	Jackson
Maude M. Gerdes, M.D.	Jackson

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Defense at Home

On December 5, the State Health Officer wrote all full-time county health officers on the subject, "Public Health Workers in the National Preparedness Program," as follows:

Dear (county health officer):

Dr. J. A. Milne, director of County Health Activities, and I had an official conference with Colonel James E. Baylis and other commanding officers in the Fourth Corps Area in Atlanta recently in regard to health officers, nurses, and sanitation supervisors who are employed in county health departments. Colonel Baylis voluntarily expressed to us his appreciation of the important part that health department personnel are playing in the preparedness program. He felt that the health of the civilian population was of the utmost importance and expressed his desire to have as little interruption of the public health services in his area as might be possible in having especially trained health workers come into the service of the Army.

I do not know if our associates fully appreciate the service that they are rendering the people of their respective counties in the work they are now doing and the added importance that will be attached to the public health work as families are depleted of wage earners, thus making it of greater importance to have preventive measures instituted.

Colonel Baylis has already written a letter to all Red Cross nurses. We feel that his purpose in writing, asking that they should have a statement from the proper official agency granting their release, was that we might have an opportunity of discussing with them what their services mean in civil life. It might be that they have never appreciated fully the importance of their positions, and for this reason I am writing you.

The State Board of Health is wholeheartedly behind the preparedness program and is prepared to put forth greater efforts than ever toward protecting the health of the civilian population. For this reason we are anxious to have well-trained and experienced people carry out these services at home. We are charged with this responsibility primarily.

Very truly yours,
(s) FELIX J. UNDERWOOD,
Executive Officer.

THE PHYSICIAN'S RESPONSIBILITY TO HIS COMMUNITY IN THE REGISTRATION OF BIRTHS AND DEATHS*

While the subject assigned to me is one of intense and vital importance to the state's obtaining an inventory of its citizenship, yet it is inappropriate to this particular audience. It would be adequate for a group of practicing physicians, but in this meeting there are few whose duties involve the matter I wish to stress,—and these few who are here know and feel their responsibility and perform that duty promptly.

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*Address of Dr. W. H. Frizell before the Vital Statistics Section, Mississippi Public Health Association, Jackson, Miss., on December 11, 1940.

More appropriate to this occasion would be "The Importance of Registrars Compelling Physicians to Make Correct and Prompt Reports of Births and Deaths." Those to whom I should speak are not here,—the practicing physicians who do not take the responsibility very seriously. This is a fine text for a sermon to the sinning doctors, but their pews today are empty.

The physician should feel it his solemn duty to make these required reports, not only correctly, but promptly; not only as a duty to his community, but a duty to his state and his national government,—for the doctor is a citizen of the **world.**

Any country's or state's importance is measured by the intelligence of its citizenry. Its citizenry is strong and intelligent **only** when all means are used to keep its citizenry not only fully abreast with current events and development, but with its needs and its physical status. The first can be taken care of by secular and educational training in schools and society, whose precedent is of long standing.

The necessity and methods of obtaining an inventory of our citizenry—our man power, if you please, is of comparatively recent origin.

The birth of a potential citizen is therefore the point of beginning. Then we shall proceed from that event. It is obvious, therefore, that it is important to find out and maintain registration of these additions to society and state,—and that promptly! I would not indict the profession with the charge of criminal disobedience to the laws of the country—far from it, because the physician has been, and is always prompt and willing to make sacrifice for his country and flag, but in these—to some—minor details in our government, he is slow, or at least a bit negligent in performing his duty, pleading business and professional duties. He is charitable to individuals, he should be to his state also, to discharge the duty imposed upon him by virtue of his social, civic, and political preferment. It is quite true that it takes some moments of his time, but the reward compensates for the sacrifice.

He may not receive the expressed plaudits of the populace, he may not have his works engraved on his tomb, but his **profession** will receive the commendation—and **he owes much to his profession.**

Present day government set-up, with its numerous intricate departments, each interwoven with the other—each demanding to know **who** one **is**, where from—(the Lord **only** knows whither bound), needs to know his physical as well as civic status.

Our lax system heretofore of accounting for our most vital and potential possessions—our man power—is obviously serious. Not only his mere birth, but his immediate antecedents, his birth date, sex and family's legal status—his **social** status as well—for much **may** depend on this record, are necessary for strict government inspection and protection. Majority, military age, voting, inheritance rights and many other things guaranteed to him by his government require accurate vital statistics.

The present "New Deal" has greatly increased the necessity for correct birth records—the old age pensions, Social Security, selective service, and training in the Army, Navy, and all forces in our National Defense.

These features more than ever before were brought forcefully to our attention in making the draft for the World War in 1917-18, and inducting them into service. Many new angles developed—with no precedent to follow in their solution. About the only record dating far enough back that date was the family Bible record, unless some near relative with a convenient and plastic memory came to the registrant's aid with no regard for exactness. These are instances of **practical** importance.

There are few physicians today who do not have many inquiries from those who have left the parental roof and sought their fortunes in other fields, wanting—even pleading—for birth certificates, or some evidence whereby he might obtain a certificate of his birth and his identity, giving as his reason, that he cannot hold his present position or acquire one sought for with the government unless he can substantiate his birth, and so forth. The same can be said of social security, old age pensions, and the like.

We must prepare for the future before the future arrives!

Next in importance — sometimes of equal importance—is the necessity of prompt and accurate reports on deaths,—the end of that citizen—"When the curtain is drawn," and that before **interment.** Here is another lame place in our registration rules and regulations. **No interment should be allowed** until a proper assignment of death has been made and the registrar has it in hand, together with as complete a history of the decedent as possible to obtain, and a "permit" issued to the proper person. Here the prevalence of any certain disease could be of value to all concerned, the manner as well as cause of death might mean much in the courts and in the adjudication of one's effects. For it is here that the Book is closed, the account with society and government balanced.

Then if Fortune and Fates have been kind and generous, the residue of his estate can be distributed legally and with a minimum of expense and detail to those to whom it is due. Thus, with the physician's reporting of the birth and the death of a person, his origin, his life history, his service and final earthly disposition is made a part of history—and intelligently so.

In organized government. no man, or set of men, can live unto himself; society (speaking from a governmental standpoint) is far too complex an institution for such to obtain, so let each one do his duty to society fully and reap the reward of the faithful and bring credit to our profession.

County Societies

OFFICERS OF ADAMS COUNTY MEDICAL SOCIETY

The following officers have been elected for the Adams County Medical Society for 1941:

Dr. J. S. Ullman, Natchez, president.

Dr. L. S. Gaudet, Natchez, sec.-treas.

Meets every third Tuesday at 7:30 P.M.

AMITE-WILKINSON COUNTIES MEDICAL SOCIETIES ELECT OFFICERS

The regular meeting of the Amite-Wilkinson Counties Medical Society was held in the assembly room of Field Memorial Hospital, Centerville, last Thursday evening at 7:30.

The following officers were elected for the ensuing year: For Amite County—Dr. W. R. Brumfield, president; Dr. D. H. Thornhill, vice-president; Dr. Anderson Butler, secretary; Drs. Paul Jackson and W. T. Thornhill, delegate and alternate delegate to the State Medical Association.

For Wilkinson County—Dr. C. E. Catchings, president; Dr. S. E. Field, vice-president; Dr. R. J. Field, secretary, and Drs. S. E. Field and C. E. Catchings, delegate and alternate delegate to the State Medical Association.

Miss Mabel Richardson was designated acting secretary and treasurer for the year.

COAST COUNTIES MEDICAL SOCIETY

At the December meeting of the Coast Counties Medical Society the following officers were elected for the year, 1941. This society meets the first Wednesday in each month.

President, C. H. McCall; Vice-Presidents: Harrison, R. W. Burnett; Jackson, R. C. Ely; Hancock, A. P. Smith; Stone, S. E. Dunlap; Secretary-Treasurer, D. L. Hollis; Medical Defense, D. G. Rafferty; Censor, F. O. Schmidt; Delegate, B. B. O'Mara; Alternate, A. C. Hewes.

The scientific program of the evening was a paper on "Ruptured Appendix," by Dr. Ottis H. Beck, of Greenville. Dr. Beck presented this interesting subject in an excellent manner and it was thoroughly enjoyed by a large number of the society.

DeSOTO COUNTY

The press generally has published much about the Vitamin Flour Drive. Under government sponsorship, a wholesale drive to improve Americans' health through use of vitamin-fortified flour is under way. There have been a few private experiments with similar products, but this is to be a nation-wide campaign. The process for fortifying flour with vital nutritive elements (the B vitamins) was developed partly in government laboratories and partly by college experiments, with some practicable refinements by millers. The resultant bread tastes much like white bread but is a bit yellower in color and has many times more nutritional value. Now experts of the Food and Drug Administration and Public Health Service are working with millers, trying to get nearly all them to make the product. The U. S. experts say the move will be one of the greatest improvements in nutrition in many years.

The epidemic influenza outbreak which struck recently in Los Angeles is being watched with especial care. The epidemic probably started on the Western Coast by evacuees from the Sino-Japanese war zone or by sailors returning from fleet maneuvers in Hawaii. The outbreak is fortunately a mild one, with deaths a fraction of one per cent of total cases, so there is no cause for alarm. The 1918 outbreak taught the profession many important lessons; also, such potent anti-disease drugs as sulfanilamide and sulfapyridine were unknown in 1918.

You can catch cold more easily when you're blazing mad than when you're calm and at ease. Emotional disturbances upset your glandular functions, rendering you a much easier prey to lurking germs.

Dr. Thomas Parran, Surgeon General of the United State Public Health, reminds the nation that in the World War, our armed forces of 4,000,000 men required the services of 35,000 medical officers in the Army and 3,000 in the Navy. This represented 26 per cent of the entire medical profession of the time. He estimates that today it will be necessary to call 75,000 medical men from civil to military duty for every 1,000,000 men drafted.

The chief immediate duty of the medical officer is to safeguard the health of the soldier, particularly from infections. All the problems of public health become more acute when large numbers of men are brought together in camps.

Seven conditions, which cause seven out of every 12 deaths in the United States, are the nation's seven horsemen of death. Mortality statistics reveal the following figures for the deaths they cause per 100,000 of population:

Heart disease	239.9
Cancer	106.2
Kidney disease	84.2
Accidents	79.9
Pneumonia	79.4

* * * *

Bon mot snipped from somewhere: "A business seer believes that increased scribbling on hotel and restaurant tablecloths means greater prosperity. It probably does for the table linen laundry workers, anyway."

Honor Veteran Doctors

Sixteen doctors who have completed 50 years of medical practice in St. Louis were recently honored by the St. Louis Medical Society. Certificates printed in gold were presented to the honored physicians. Twelve of the physicians honored were present. Three were too ill to attend the meeting and one was out of the city.

* * * *

There is no one that deserves honor and recognition more than the faithful physician who at all times and circumstances responds to the call of sickness and distress.

Nothing is more estimable than a physician who, having studied nature from his youth, knows the properties of the human body, the diseases which assail it, the remedies which will benefit it, exercises his art with caution, and pays equal attention to the rich and the poor.—Voltaire.

* * * *

This is a picture of the glamorous girl, a living symbol of the chemical age, attired in the latest woman's apparel: She wears no silk, wool, linen, cotton, or leather—no jade, ivory, or pearls. All is synthetic. From cellophane hat, rayon dress and gloves to plastic pearls and bracelet, patent-leather shoes with plastic heels, and a handbag with a "Lucite" plastic frame, her outfit is all of laboratory origin.

* * * *

In Atlanta, Georgia, a group of broad-visioned scientists has "buried" our civilization—its life, customs and culture—for 6,173 years!

Deep beneath the Administration Building of Oglethorpe University a complete record of our times has been sealed in the "Crypt of Civilization," a 10 by 20 foot vault of stone and steel, to await the exploration of historians 187 generations hence.

After three years' intensive collection effort by Dr. Thornwell Jacobs, Oglethorpe president and his associates, the crypt was sealed this past summer, its stainless steel door welded against time. Into the crypt was placed a complete record of this generation's world—"microfilms" of 800 books; scale models of today's industrial, business, transportation and communication devices; pictures of daily life objects; motion pictures of today's personalities, places, and life.

A most Happy and Prosperous New Year to the readers of the Mississippi Doctor.

Rt. 4, Memphis, Tenn. L. L. Minor,
Dec. 19, 1940.

NEWTON COUNTY MEDICAL SOCIETY

The Newton County Medical Association met at Decatur, Mississippi, Thursday, December 12. The following officers were elected for the year 1941:

Dr. Z. C. Hagan, Union, president; Dr. D. Stennis, Newton, secretary-treasurer; Dr. W. J. Pennington, Decatur, vice-president; Dr. Omar Simmons, Newton, censor; Dr. D. Stennis, Newton, delegate to the State Medical Association; Dr. W. J. Pennington, Decatur, alternate delegate to the State Medical Association.

Other members present were the following: Dr. W. S. Polk, Union; Dr. W. C. Calvert, Union; Dr. Victor Henton, Decatur; Dr. W. O. Allen, Chunky.

Representatives from the rural rehabilitation project were present and gave an outline of their plan for medical service to their clients for the year 1941, which was accepted by the Newton County Medical Association.

PONTOTOC COUNTY MEDICAL SOCIETY OFFICERS FOR 1941

President: Dr. W. H. Reid, Toccopola.

Vice-President: Dr. R. D. Donaldson, Pontotoc.

Secretary: Dr. E. B. Burns, Ecru.

N. E. Mississippi: Dr. R. P. Donaldson, Vice-President from Pontotoc County.

Delegates to State Medical Association: Dr. E. B. Burns, Ecru; Alternate, Dr. A. P. Dunavant, Pontotoc.

Woman's Auxiliary

TO THE MISSISSIPPI STATE MEDICAL ASS'N.

President	Mrs. E. C. Parker	Gulfport
President-elect	Mrs. W. K. Stowers	Natchez
First Vice-President	Mrs. Hugh H. Johnston	Vicksburg
Second Vice-President	Mrs. Augustus Street	Vicksburg
Third Vice-President	Mrs. W. H. Anderson	Booneville
Assistant	Mrs. Stanley A. Hill	Corinth
Fourth Vice-President	Mrs. B. B. Martin, Jr.	Vicksburg
Recording Secretary	Mrs. H. C. Sheffield	Jackson
Treasurer	Mrs. J. D. Simmons	Cleveland
Historian	Mrs. V. B. Philpot	Houston
Parliamentarian	Mrs. C. C. Hightower	Hattiesburg
Research on History of Medicine	Mrs. G. D. Mancill	Indianola
Public Relations	Mrs. John B. Howell	Canton
Public Policy and Legislation	Mrs. F. L. Van Alstine	Jackson
Honorary President	Mrs. Dan J. Williams	Gulfport
Memorial	Mrs. Henry Boswell	Sanatorium
Doctor's Day	Mrs. George Wallace	Gulfport
Exhibits	Mrs. John S. Harter	Sanatorium

Councilors: First District, Mrs. H. L. Cockerham, Gunnison; Second District, Mrs. C. M. Roberts, New Albany; Third District, Mrs. T. H. Rayburn, Pontotoc; Fourth District, Mrs. Paul Brumby, Lexington; Fifth District, Mrs. H. E. Frizell, Vaughn; Sixth District, Mrs. R. L. Simmons, Meridian; Seventh District, Mrs. S. E. Bethea, Jr., Hattiesburg; Eighth District, Mrs. Lucien Gaudet, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point.

Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITIES CALENDAR

June—HYGEIA.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Pre-Natal Care.
April—Cancer.
May—Alcohol.

HOW MANY HYGEIAS HAVE YOU PLACED?

It's hard to get out and ask the other doctors in your town and the beauty operators you seldom patronize to subscribe to HYGEIA. But get sold on it, and you will make them see the advantages of having the only health magazine available to the public at their places of business. Won't you send in a 100% report for your auxiliary?

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES AUXILIARY

Entertained annually at Tupelo by the ladies of the Four-County Unit, the members of the Thirteen Counties Auxiliary enjoyed a delightful luncheon and program at the Tupelo Country Club in December. Christmas decorations lent festive atmosphere to the setting.

Presided over by Mrs. M. M. McMillan, the luncheon was highlighted by the attendance of Mrs. E. C. Parker, of Gulfport, president of the state organization, and Mrs. W. K. Stowers, of Natchez, president-elect. After encouraging talks by these two honor guests, a musical program preceded the scientific discussions made by Dr. W. D. Hickerson, of Sanatorium, and Dr. W. H. Sutherland, of Booneville, both of whom talked of tuberculosis and its problem of lay enlightenment. Mrs. Bernard Patrick, president of the Thirteen Counties organization, presented these two guest speakers and continued with the annual business session.

Mrs. I. P. Burdine, Jr., of Amory, was elected president for the coming year, and Mrs. Stanley A. Hill, of Corinth, was re-elected secretary.

THIS SECTION NEEDS THOSE CLIPPINGS

Let the press and publicity chairman have accounts of your auxiliary meetings. This section is provided for just that purpose—that auxiliary members over the state may keep in contact with one anothers activities.

ARE YOU FOLLOWING THE CALENDAR?

Are you following the subjects suggested in the Activities Calendar for program material and work this year? Get something published in your local newspaper on these subjects each month, whether you meet monthly or quarterly. And save the clippings!

COLDS

How to Avoid a Cold

1. Stay away from people with colds.

2. Keep clean inside and out. Always wash your hands with soap and water before eating and after toilet. Keep your bowels open.

3. Have diseased tonsils, adenoids and bad teeth removed.

4. Avoid carelessly washed drinking and eating utensils. They should be boiled before using.

How To Treat A Cold

If you have followed these precautions but find that in spite of your efforts to take care of yourself you continue to take cold, you should see a doctor. He may find it necessary to correct some physical condition before you can be properly protected from colds.

The time to start treating a cold is at the first sign of it. Rest in bed, if the cold is severe and accompanied by body pains and weakness. If it is slight, stay in the house. Remember that rest is the first essential in the treatment of a cold. Drink plenty of cold water and eat lightly of simple, wholesome food. Before retiring, drink a hot lemonade, take a hot bath and put an extra blanket on the bed. This will help to "sweat out" the cold. These are things "to do," but there are equally as important things "not to do" in treating a cold. They are:

1. Don't take "cold" tablets indiscriminately and without the advice of your doctor. Some of the medicines sold as remedies for colds are dangerous and bad for your heart and blood.

2. Don't blow your nose too hard. It may force the germs back into the sinuses and give you sinusitis. This condition, characterized by severe facial or head pain can be serious and may require operation. Forceful nose blowing will also send back germs into the eustachian tube, which is a tube on each side of the throat, leading from behind the nose to the ear. If infection gets into the ear, it will cause severe earaches and may also require opening of the ear, or if neglected still further it may cause a more serious infection called mastoiditis.

3. Don't neglect a cough that may be incidental to a cold. A cough means that a cold has extended to the bronchial tubes and a form of bronchitis has developed. Failure to seek professional advice at this point means risking the chance of getting bronchopneumonia or lobar pneumonia.

4. Don't give your cold to some one else. In public, turn your head, and cough or sneeze in your handkerchief. At home, see that your eating utensils are boiled after using them. Do not kiss any one while you have a cold. Ordinary colds are contagious, and the germs which cause them are easily transmitted from one person to another. A slight cold in one person may turn out to be a severe cold in another person.

General Facts

1. The ordinary cold is common but costly, incapacitating and potentially dangerous.

2. It starts with a tightness in the head, running nose, sneezing, burning of the eyes and perhaps a cough.

3. The cold is contracted through the nose and throat, but healthy individuals have a natural barrier to the cold germs if they keep their general physical condition above par.

4. The general physical condition of the individual is kept above par by getting adequate rest, eating proper foods, avoiding overeating, drinking sufficient fluids and protecting the body from inclement weather and sudden changes in temperature.

(The above excerpts were clipped from the January, 1938 issue of Hygeia.)

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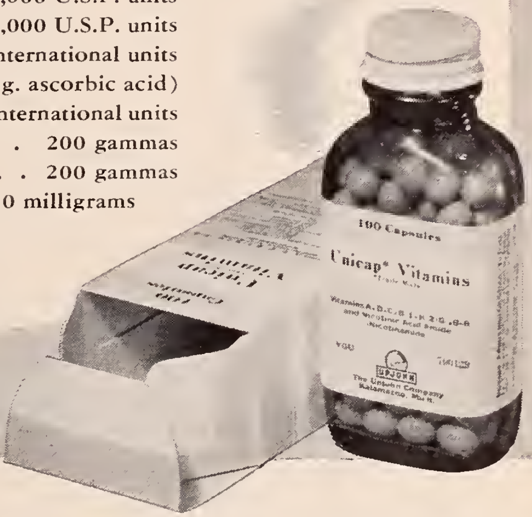

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February 11-12-13-14, 1941

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Dr. William D. Stroud—Medicine	Philadelphia, Pa.
Dr. Leon Herman—Urology	Philadelphia, Pa.
Dr. Russell L. Haden—Medicine	Cleveland, Ohio
Dr. Henry P. Wagener—Ophthalmology	Rochester, Minn.
Dr. Fremont A. Chandler—Orthopedics	Chicago, Ill.
Dr. Bret Ratner—Pediatrics	New York, N. Y.
Dr. Robert A. Kimbrough, Jr.—Obstetrics	Philadelphia, Pa.
Dr. Claude C. Cody—Otolaryngology	Houston, Texas
Dr. Paul R. Cannon—Pathology	Chicago, Ill.
Dr. James G. Carr—Medicine	Chicago, Ill.
Dr. Milton Friedman—Radiology	New York, N. Y.
Dr. Edwin N. Broyles—Otolaryngology	Baltimore, Md.
Dr. Elmer L. Sevringhaus—Medicine	Madison, Wis.
Dr. Francis D. Murphy—Medicine	Milwaukee, Wis.
Dr. Verne C. Hunt—Surgery	Los Angeles, Calif.
Maj. Gen. James C. Magee, Surg. Gen. U. S. Army	Washington, D. C.
Dr. F. W. Schlutz—Pediatrics	Chicago, Ill.
Dr. Wallace M. Yater—Medicine	Washington, D. C.
Dr. E. C. Hamblen—Gynecology	Durham, N. C.
Dr. D. B. Phemister—Surgery	Chicago, Ill.
Dr. Buford G. Hamilton—Obstetrics	Kansas City, Mo.
Dr. E. L. Eliason—Surgery	Philadelphia, Pa.
Dr. R. B. Cattell—Surgery	Boston, Mass.

Programs will be mailed February 1. Write for one if you do not receive yours.

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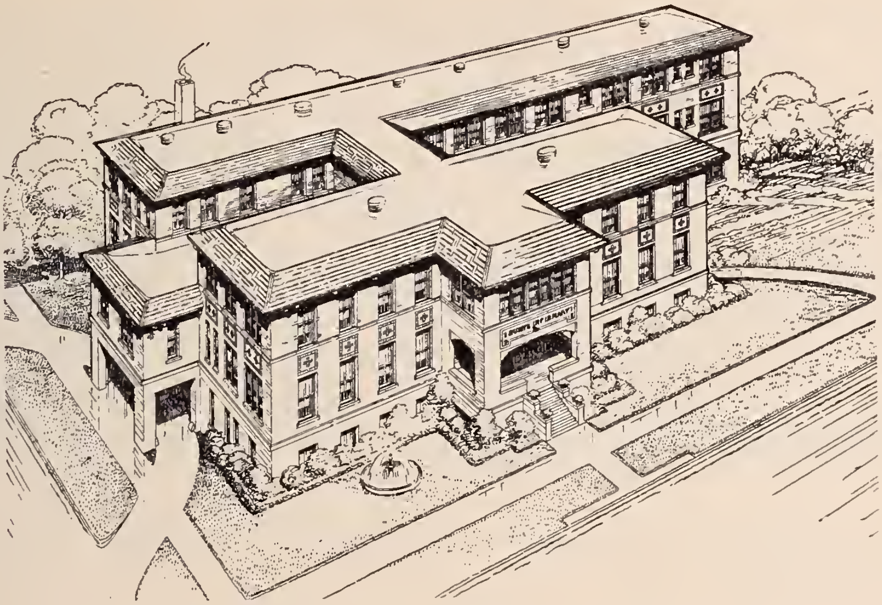

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The Mississippi Doctor

VOL. 18 BOONEVILLE, MISSISSIPPI, FEBRUARY, 1941 NUMBER 9

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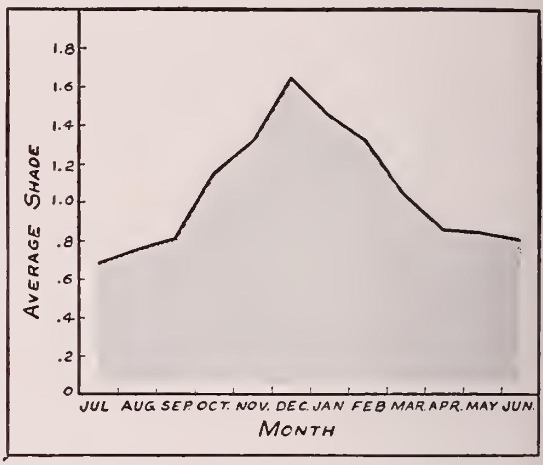

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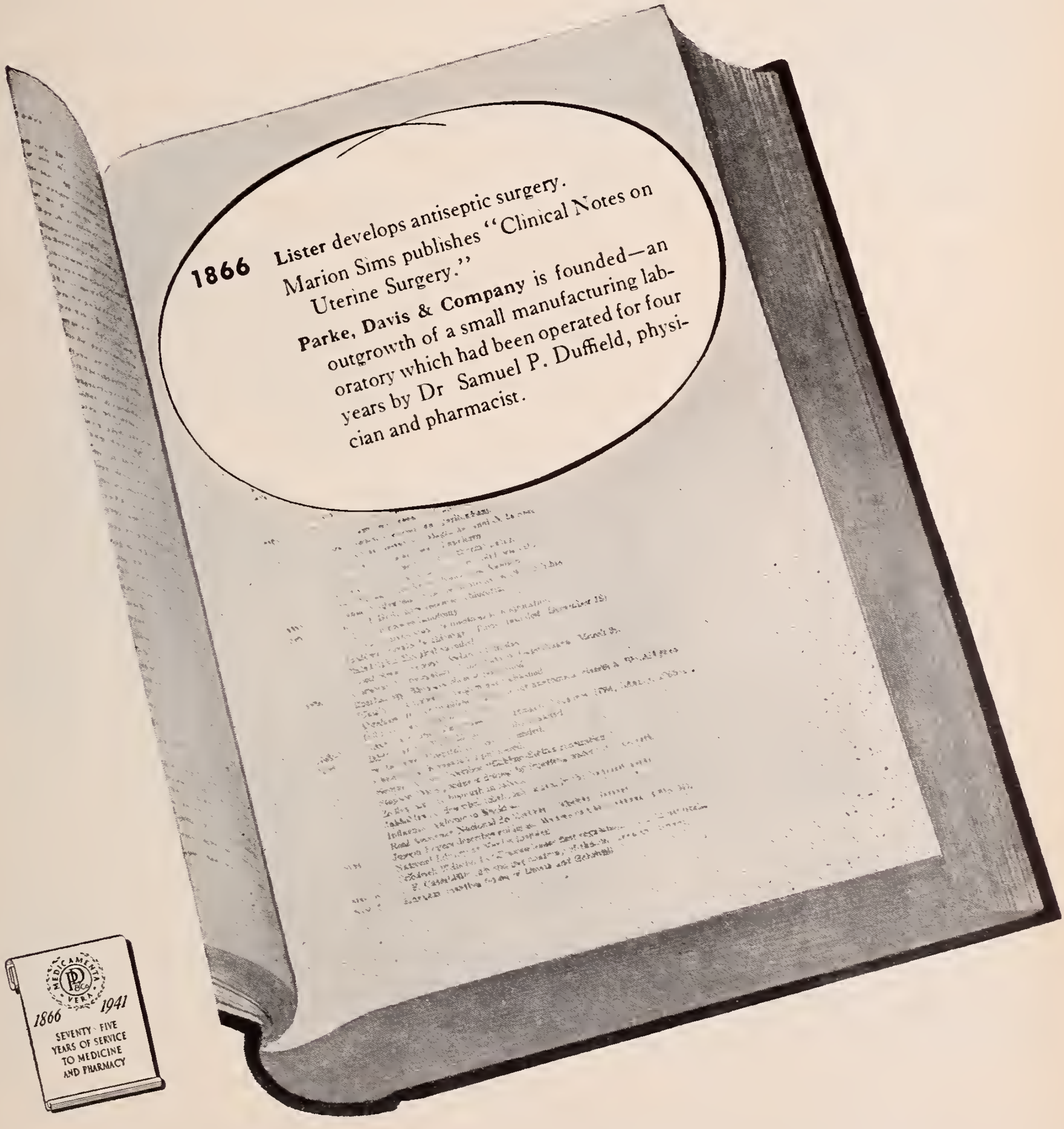

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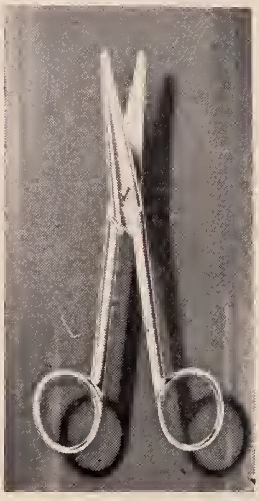

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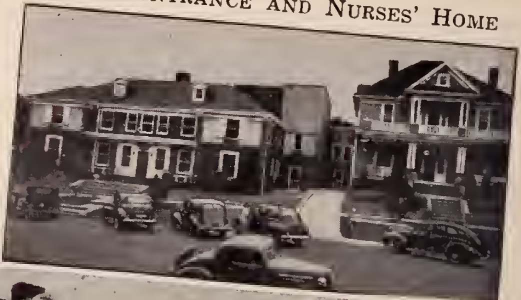

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Advances in the Treatment of Acute Peritonitis of Appendiceal Origin

JOHN LUCIUS McGEHEE, M.D.*
Professor of Surgery, College of Medicine, University of Tennessee
MEMPHIS, TENN.

THIS PAPER is a report to you of the experience of the surgical staff of The John Gaston Hospital (the teaching hospital of the University of Tennessee College of Medicine) with the problem of appendiceal peritonitis during the last five and one-half years, together with certain conclusions we have drawn from this experience and the results of the application of these conclusions in the treatment of this disease.

I wish you to bear in mind that these statistics are compiled from the records of a charity hospital, whose clientele is from the lowest social strata, in whom the primitive instinct to swallow a purgative whenever suffering from abdominal pain is still uninfluenced by any form of educational propaganda, and who seek surgical relief only as a last resort. In all fairness, these statistics should not be judged by comparison with those of individual surgeons whose clientele comes from the higher social strata. However, we believe that the conclusions drawn and the general underlying principles advocated are applicable to prince or pauper when the victim of appendiceal peritonitis of equal degree.

The statisticians tell us that 18,000 deaths from appendicitis occur annually in the United States. Eighteen thousand unnecessary deaths! It is my considered opinion **that the responsibility for this death rate rests almost entirely on the shoulders of the medical profession,** for a very few patients with a pain in the abdomen wait many hours before seeking medical advice, and **upon such advice** depends the result: recovery, morbidity or death.

Theoretically, we should have a death rate in acute appendicitis of less than 1 per cent, and we would have it if diagnosis were promptly made and appendectomies promptly done by competent surgeons. Unfortunately, we are faced with a fact and not a theory. The fact is that 20 per cent—one in five—of our cases of acute appendicitis are complicated, due to negligence or ignorance, or both, by the very serious complication of perforation and a variable degree of peritonitis when referred for surgical treatment. **It is from this group** that our present day (1939) death rate of 10.4 per 100,000 arises.

The two decades from 1911 to 1931 showed a rising death rate: from 13 per 100,000 in 1911 to 18.8 per 100,000 in 1931. It was during this period that the dictum "that the time to operate upon a case of acute appendicitis is when the diagnosis is made" was in full force and almost universally approved. The blind adherence to this dictum brought us to the peak of appendiceal mortality in 1931.

Statistical surveys revealed the fact that it was impossible to make amends for slothful diagnosis by hasty and precipitous operations, so recourse was hod by thoughtful surgeons to a means of combating the essential pathology of the perforated appendix. The patient's physiologic and metabolic status and the natural protective mechanism of the peritoneal cavity were taken into account and means, which may be summarized as the "modernized Ochsner treatment," were devised, the object of which was to **render the inoperable operable. It is in no sense a substitute for but a preparation for operation.**

In 1935 a survey was made of the previous 5-year results (1930 to 1934, inclusive) in acute appendicitis at the John Gaston Hospital:

TABLE I

JOHN GASTON HOSPITAL—MEMPHIS

ACUTE APPENDICITIS
1930 to 1934 (5 Years)

ACUTE APPENDICITIS
(With and Without Perforation)

Cases	Recovered	Died	Mortality Rate
1473	1252	221	15.6%

---

*From the Department of Surgery, University of Tennessee College of Medicine.

ACUTE APPENDICITIS
(Without Perforation)

Cases	Recovered	Died	Mortality Rate
982	965	17	1.7%

ACUTE APPENDICITIS
(With Perforation)

Cases	Recovered	Died	Mortality Rate
491	287	204	41.5%

Note: One case in three perforated on admission. No attempt was made to distinguish between the operable and inoperable. All cases subjected to immediate operation on admission. (Appendectomy and drainage).

As a result of this survey, the problem of improving this mortality rate of 41.5 per cent in cases of appendiceal peritonitis was undertaken by the surgical staff and the following orders were put in force for the guidance of the house staff:

JOHN GASTON HOSPITAL—MEMPHIS
(For Guidance of House Staff)

MODERNIZED OCHSNER TREATMENT OF ACUTE APPENDICITIS WITH PERFORATION AND PERITONITIS

On Admission:

1. A Complete History Including
    - Time since onset
    - Chronologic order of symptoms
    - Vomiting—type, frequency, character and duration
    - Purgative or not—number of doses
2. A Complete Physical Examination Including
    - Temperature, pulse rate and blood pressure
    - Abdominal distention—degree: 0-1-2-3-4
    - Abdominal tenderness and rigidity—degree: 0-1-2-3-4
    - Mass—visible or palpable
    - Rectal and vaginal examination
3. Clinical Laboratory Determinations:
    - Complete blood count, blood chlorides and non-protein nitrogen, chemical and microscopic
    - Examination of urine
4. A Clinical Impression:
    - Perforation or not?
    - Operable or inoperable?
5. Call Attending Surgeon to Check Opinion of Operability.
6. If Considered Inoperable:
    - a) Fowler position
    - b) Morphine QS for mild narcosis
    - c) Venoclysis—5% dextrose in normal saline solution—3000 to 5000 cc. daily
      (Amount of NaCl normal solution according to plasma chloride needs)
    - d) Continuous intestinal deflation by suction siphonage
    - e) Daily urinary secretion determination
    - f) Daily blood chloride and non-protein nitrogen determination
    - g) External heat over abdomen (heat tent)
    - h) Blood transfusions—pro re nata
      (Usually 5-7 days—amount 300—500 cc.
    - i) Sedimentation time Q 3-5 days
    - j) Pulse, temperature and respiration Q 4 hours
    - k) Progress notes three times daily with special reference to general appearance, pulse rate, temperature, respiration, degree of distention, rigidity and pain, character and amount of fluid withdrawn by suction siphonage
    - l) Criteria for operability:
      Ten days of normal temperature, normal pulse, normal leukocyte count, and absence of local physical signs

Under this general plan of management, varied to suit the exigencies of the individual case, we have treated 407 cases of acute appendicitis with perforation and peritonitis during the last five years and two months with the results shown in Table II:

TABLE II

ACUTE APPENDICITIS
July, 1935 to September, 1940

(With and Without Perforation)

Cases	Recovered	Died	Mortality Rate
1804	1726	78	4.3%

(Without Perforation)

Cases	Recovered	Died	Mortality Rate
1397	1390	7*	.5%

*Causes of Death:

Acute Dilatation of Stomach	1
Pulmonary Embolism	2
Gas Gangrene of Abdominal Wall	1
Peritonitis, Acute, Leakage at Site of Appendiceal Stump	2
Acute Cardiac Failure—Obesity	1

(With Perforation and Peritonitis)

Cases	Recovered	Died	Mortality Rate
407	336	71	17.4%

Note: One case in 4.5 cases perforated on admission.

More detailed analysis of the 407 cases in which perforation had occurred is shown in

TABLE III

ACUTE APPENDICITIS
July, 1935 to September, 1940

With Perforation

Cases	Moribund on Admission Dead Within 48 Hours	Elapsed Time—Onset To Admission (Avg.)
407	29*	5 days

*Causes of Death:

Subdiaphragmatic abscess	1
Pneumonia, lobar	4
Uremia	3
Peritonitis, acute diffuse	20
Appendiceal abscess, gangrene of intestine	1

All had had purgatives repeated from 1-5 times.

TABLE III (Continued)

ACUTE APPENDICITIS
July, 1935 to September, 1940

Acute Appendicitis With Perforation
(Rendered operable by modernized Ochsner treatment and subjected to operation)

Cases	Recovered	Died	Mortality Rate
378	336	42	11.1%

Cases	Recovered	Died	Mortality Rate
	Appendix Removed		
348	326	22*	6.3%
	Incised and Drained		
30	10	20**	66%
378	336	42	

*Causes of Death:	
Peritonitis, acute, diffuse	11
Pylephlebitis	2
Pulmonary edema	2
Uremia	3
Pulmonary embolism	4

**Causes of Death:	
Appendiceal abscess with obst.	12
Peritonitis, acute, diffuse	4
Septicemia (positive culture)	3
Peritonitis, acute, diffuse (6th month of pregnancy)	1

In the continued effort we are making on this clinical problem—the reduction of the mortality rate in neglected cases of acute appendicitis—our experience during the past ten months (November, 1939, to September, 1940) with the use of sulfanilamide and blood plasma as adjuvants to the modernized Ochsner treatment is of interest and possibly of significance.

The following slides graphically present this experience:

TABLE IV

JOHN GASTON HOSPITAL—MEMPHIS

ACUTE APPENDICITIS
COMPARISON

1930-1934 (5 Years)
Acute Appendicitis with Perforation
Immediate Operation

Cases	491
Recovered	287
Died	204
Mortality Rate	41.5%

July, 1935 to September, 1940
(5 Years, 2 Months)
Acute Appendicitis with Perforation and Peritonitis
Delayed Operation
(Modernized Ochsner Treatment)

Cases	407
Recovered	336
Died	71
Mortality Rate	17.4%

OPERATIVE MORTALITY RATE
(Corrected by Elimination of 29 cases moribund on admission)

Cases	378
Recovered	336
Died	42
Mortality Rate	11.1%

TABLE V

THE JOHN GASTON HOSPITAL
ACUTE APPENDICITIS WITH RUPTURE AND PERITONITIS
November, 1939 to September, 1940
Sulfanilamide—locally

Cases	Recovered	Died	Mortality Rate
48	45	3*	6.2%

*Causes of Death	
Pneumonia	1
Peritonitis	1
Subdiaphragmatic abscess	1

Elapsed Time (from onset to admission)—2 to 10 Days (Cases: 2 Days-20 Cases; 3-10; 4-5; 5-2; 6-2; 7-4; 10-2)
Peritonitis Pres: Varying Degrees
Cultures (Peritoneal Exudate): Positive
Abdominal Distention: 1 Plus to 4 Plus
Pulse Rate: 110-140; Temperature 100-103;
Blood Chlorides 250 to 350 (Mgs. Per 100 cc.)
Dehydrated;
At Operation: Appendectomy: Sulfanilamide, Grams XX Intra-peritoneally; Drainage, Open Wound.
Postoperative Treatment: Replacement Therapy, Suction Siphonage and Morphine.

The following observations were made:

When sulfanilamide was autoclaved, its absorption was reduced. In no case did it go above 2.1 mg. per cent. In the last 35 cases it was not autoclaved and in these cases the blood concentration rose in some to 19.5 mg. per cent with an average of 11 mg. per cent for this series.

The blood concentration was maintained for two to three days. The greater the degree of peritonitis, the higher the blood concentration. No effects were noted on the red blood cells, leukocytes or hemoglobin. Cyanosis and jaundice were noted in 5 cases, but cleared rapidly. The leukocytosis showed a rather rapid return to the normal. The temperature and pulse reached a constant normal curve within from 6 to 7 days.

The patients appeared to have a smoother convalescence than previous ones in the same group.

The character of drainage from the wound was seropurulent and odorless as compared with the profuse stinking discharge so characteristic of these cases. The drains were removed on the fourth day and the wounds irrigated with saline solution daily thereafter. They were macroscopically clean within 7 to 10 days. In only one case of this series was secondary closure required.

Suggested by the experimental work of Gendel and Fine[1] in acute intestinal obstruction. in which they show that the final lethal factor is loss of blood protein and not dehydration and dechlorination, and that life could be prolonged by the administration of plasma, it occurred to us that this suggestion might be beneficial in this group of patients in which, as a result of the peritonitis, an obstruction factor plays a part.

In the last 23 cases of this series, the blood protein was found to be reduced to an average of 2.5 mg. per cent, as compared with the normal of 5. mg. per cent, so blood plasma was added to replacement therapy previously employed. It was determined that 500 cc. of blood plasma daily would restore and maintain the normal of 5 mg. per cent.

Clinically, these patients seemed greatly benefited and convalesced much more rapidly. In the 23 cases so treated, there has occurred one death: a patient coming into the hospital 6 days after onset with a generalized peritonitis and dying within 48 hours.

Of course, a series of 23 cases is too small to draw any conclusions from, but I give it to you at this time for what it is worth. We propose to pursue this problem further and report on it after a more extensive experience with the use of plasma as a replacement agent.

Finally, the rationale of delayed operation in cases of appendicitis with perforation and peritonitis is based upon the fact that there exists within the peritoneal cavity a natural protective mechanism which, if left undisturbed, will, in the majority of cases, bring about resolution or localization of the peritonitis. This protective mechanism consists of the inflammatory response of the peritoneum to irritation and is characterized by the outpouring of an exudate rich in leukocytes and fibrin; it is strongly bacterial. The fibrin elements bring about agglutination of serous surfaces, thus separating the contaminated from the uncontaminated portion of the peritoneum—the localizing effect. The leukocytic element of this exudate is equally as important because of its phagocytic action. It must be remembered that this protective mechanism is effective only **when left undisturbed.** Disturbing elements are food, purgatives, enemas and ill-timed operations.

If the surgeon could get these patients in the early hours after perforation, say in nine, ten or twelve hours—in what might be termed the stage of contamination—before peritonitis has developed, immediate operation would certainly be indicated. Unfortunately, we have no method of determining the exact hour of perforation. No definite time after onset can be used as a criterion of perforation. We have seen patients in whom the delayed operation was unquestionably justified in the first 24 hours of the attack and many others in whom immediate operation was indicated on the fifth, sixth and seventh days after onset.

This brings us to the crux of the whole matter: **the selection of the time to operate, perforation having occurred.** Upon this decision rests almost entirely the ultimate success of the individual surgeon. The mere fact of perforation cannot be taken as the criterion for delayed operation, but the effect of this perforation on the individual patient, the degree and extent of peritonitis present, the general physiologic status of the patient, determined by a careful analysis of the history, physical and laboratory findings, must be the basis for this decision.

SUMMARY

1. A report of 407 cases of appendiceal peritonitis is submitted.

2. One case in five (20 per cent) of acute appendicitis is perforated when referred to the surgeon.

3. It is from the group of perforated cases (nationally, 20 per cent of all cases) that the death rate arises.

4. Hasty, precipitous, ill-timed operations cannot make amends for slothful diagnoses.

5. The value of sulfanilamide locally is discussed.

6. Delayed operation is predicated upon sound physiologic principles and its successful application depends upon the highest type of diagnostic acumen and surgical judgment.

7. It must be emphasized that "the delayed operation in acute appendicitis with perforation and peritonitis" is in no sense to be interpreted as an excuse for delay and procrastination in the treatment of acute appendicitis. **"It is not a substitute for but a preparation for operation"—a means to render the inoperable operable.**

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The Pelvis in Gynecology and Obstetrics*

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GYNECOLOGY and obstetrics are so interrelated that the study of one necessarily involves a study of the other. We cannot be efficient in one and ignore the other. It is my purpose to discuss herein a few of the more common pelvic disorders encountered by the gynecologist, particularly those with which the obstetrician is concerned. The subject is of interest, not only to the specialist, but to the physician in general practice as well.

BENIGN TUMORS OF THE UTERUS. Probably the most common of pelvic disorders are fibroid tumors of the uterus. Often these tumors prove a serious problem as a cause of sterility or repeated miscarriages. Normally of slow growth, during pregnancy they develop with remarkable rapidity. After delivery, they diminish in size and frequently disappear altogether.

The most conspicuous signs of a fibroid tumor are profuse bleeding, which increases with growth of the mass, and a concomitant anemia. Pain, also, is usually associated, resembling the cramping of menstruation, or even being so severe as to stimulate labor pain. The latter is especially true in the presence of multiple small tumors. As the mass enlarges, pressure upon the bladder and ureters and the descending colon may interfere materially with function of these organs and give rise to serious complications.

The diagnosis may at times be difficult because of the similarity of the size and shape of the uterus to an advanced pregnancy. Unless pregnancy is associated, however, the history should point to the real nature of the condition.

The presence of a benign tumor of the uterus is not necessarily an indication for surgery. In determining the advisability of operation or the most suitable procedure, several factors should be taken into consideration. Hysterectomy is the proper treatment when hemorrhage is excessive, or if the patient's suffering is extreme, when the tumor is large and rapidly growing or presents evidence of necrosis or degeneration, or there is associated adnexal disease. Occasionally, several small tumors or a solitary tumor, even though of considerable size, may be removed by myomectomy, the body of the uterus being left intact. In young women, this is the treatment of choice when feasible.

In the pregnant patient, fibroids do not cause any serious trouble in labor and delivery if located in the fundus. If near the cervix, the pregnancy may continue to term, though Caesarean section will be necessary. If the cervix is occluded, both the uterus and cervix should be removed, otherwise, serious complications may arise from pressure.

MALIGNANT TUMORS OF THE UTERUS AND CERVIX. The subject of benign tumors brings up another which, because of its grave significance, deserves special mention. When a growth is discovered either in the uterus or cervix, the question immediately presents itself: "Is it malignant?"

Carcinoma of the body of the uterus usually occurs in women between fifty and sixty years of age. The growth arises from the mucous membrane and forms a gland-like mass which ultimately invades the musculature. Bleeding and enlargement of the uterus are the cardinal signs. The patient complains of some discomfort but no actual pain until late in the course of the disease. The treatment should consist of total hysterectomy, followed by deep roentgen therapy.

Far more prevalent than cancer of the uterus is cancer of the cervix, the ratio being approximately 8 to 1. In fact, cancer occurs in the cervix more often than in any other part of the body. The majority of patients are near forty years of age, although it is not uncommon at an earlier period.

Formerly, cervical cancer was believed to be caused by old lacerations from childbirth. It is now known that erosions are the principal source of the malignant growth, especially when situated where the columnar and squamous epithelium meet.

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The chief symptom of cancer of the cervix is hemorrhage or a bloody discharge. On examination, the cervix will be found enlarged and slightly nodular or necrotic. To the experienced gynecologist, the diagnosis is not difficult at this stage, though if one is in doubt, the nature of the lesion may be determined by the Schiller iodine test. In every case, a specimen should be removed for biopsy. Without these confirmatory studies, one may occasionally confuse the lesion with a cervical polyp, necrotic fibroid tumor, or simple erosion.

If seen early, approximately 30 per cent of cancers of the cervix may be eradicated by total hysterectomy and applications of radium. If the growth is extensive, radium, followed by deep roentgen therapy, is the treatment of choice.

Tumors of the Pelvic Bones. In addition to tumors of the soft structures, one occasionally encounters an osteoma, which, if situated at the pelvic brim, especially at the promontory of the sacrum, proves a serious problem in pregnancy. The growth is readily discernible in the roentgenogram, which should be made not later than two weeks prior to delivery. Since the baby cannot pass into the pelvis, attempts to effect delivery will be dangerous. One's only recourse in such cases is Caesarean section.

Retroversion of the Uterus. According to statistics, 20 per cent of women have some misplacement of the uterus, the position usually being retroversion. In the nulliparous, the condition is generally developmental, whereas in parous women it is associated with stretched or torn pelvic muscles and consequent relaxed support incident to childbirth.

The displacement does not always give rise to symptoms; the majority of patients, however, complain of dysmenorrhea, leukorrhea, headache, backache and extreme nervousness. One of the most common disasters of the retroverted uterus is early abortion. Not until four months of pregnancy have passed may one feel reasonably sure of a full term gestation.

In some patients the displacement can be corrected only by surgery. When there is any question, the advisability of operation may be determined by first elevating the uterus with a hard pessary. The patient should be observed every thirty days. If, after four months, the uterus does not remain in position, the operation should be carried out. This, of course, does not apply to elderly patients; these should continue to wear a pessary permanently.

Not infrequently, a displaced ovary is found in conjunction with a retroverted uterus; in fact, it may be the chief source of trouble. The outstanding symptom in such a condition is localized pelvic pain. The ovary, which is frequently enlarged, may be palpated rectally in the culdesac, or through the vaginal vault.

Displacements of both the uterus and ovary may be corrected by a single operative procedure. For this purpose, the author prefers the Webster-Baldy technic, whereby the round ligaments are brought through the folds of peritoneum below the tube, passed beneath the meso-ovarian ligament, and brought together on the upper third and posterior surface of the uterus. Prior to the abdominal operation, a dilatation and curettage should always be performed, and a laceration of the perineum and cystocele, if present, should be repaired.

In this connection, I should like to state that lacerations of the pelvic floor and cervix following childbirth should never be neglected. Repair should be effected as early as possible in order to prevent displacements of the uterus and obviate the danger of malignancy. As a matter of economy for the patient, one may make repairs at a subsequent delivery, though this is not advisable because of the danger of infection. The most suitable time is during the interim.

Repair of pelvic lacerations should not be undertaken lightly, as the operation is by no means simple. On the contrary, from a technical standpoint it is far more difficult than hysterectomy, and should be attempted only by one who is skilled in this type of surgery.

Infections. Infections involving the tubes, on the whole, carry in their train a larger series of disasters than any other pathologic condition peculiar to women. This is especially true when the victims are young and the causative organism is the gonococcus. It is estimated that one-half to two-thirds of the infections of the tubes are gonorrheal in origin, the remainder being chiefly streptococcic. Sealing of the tubes, sterility, and perhaps an operation ensue, accompanied more often than not by partial invalidism and unhappy marriages.

The acute stage of gonorrheal salpingitis is characterized by inflammation and edema of the tube and exudation of purulent material.

The adjacent peritoneum is also involved in the reaction. In some cases, the purulent exudate escapes through the uterus or is absorbed by the lymphatics, whereas in others it accumulates in the tube and forms an abscess. The latter condition is known as pyosalpinx. In more chronic forms of the disease, one observes a hydrosalpinx, or distention of the tube with a watery fluid. This finding is believed to represent a terminal or quiescent stage, wherein the purulent exudate has been absorbed and the inflammation has subsided.

The picture presented during an acute attack is usually easily recognized, the symptoms being intense pelvic pain, extreme tenderness of the entire lower abdomen, high fever, rapid pulse, chills, nausea and vomiting, leukorrhea, and discomfort on urination and defecation. When the acute attack subsides, the patient is fairly comfortable and thinks she is well. Unless proper treatment is carried out, however, the symptoms will reappear. In the interval between attacks, the diagnosis must rest upon the history and the palpation of moderately tender and slightly enlarged tubes and ovaries.

During the chronic stage, dysmenorrhea, menorrhagia, leukorrhea, sterility, loss of weight and general malaise are common complaints.

With current therapeutic agents, cure may usually be effected without operation. The treatment during the acute stage consists of rest in bed and the application of heat to the lower abdomen, either by the Elliott method or with diathermy. Even in an advanced stage of the disease this measure will generally afford complete relief. In a few cases, however, the infection fails to respond to any type of conservative treatment and operation becomes necessary. In this event, one should not hesitate to remove both tubes, provided both are diseased. as is the rule. The uterus, also, should be removed as a prophylactic measure, since without the tubes the uterus has no function and may itself prove a source of trouble later. The ovaries, on the other hand, should be preserved insofar as possible. Fortunately, they are rarely hopelessly diseased.

The prognosis following surgical eradication of the disease process is favorable. Permanent relief may be expected.

Streptococcic infections, which usually are induced by abortion, are manifested by symptoms similar to those of the gonorrheal form. The course of the disease, if untreated, is more tempestuous; abscess, peritonitis and septicemia are prone to develop early. These complications may be avoided, however, and the infection successfully combatted by promptly applied medical measures.

Benign Tumors of the Ovary. Tumors of the ovary, as well as of the uterus, frequently offer a serious impediment to pregnancy, in that they tend to cause pressure, often leading to abortion or necessitating termination of gestation. Unlike fibroids, however, ovarian tumors do not disappear after delivery.

There are several varieties of ovarian tumors, the majority being cystic in type. Some of them grow rapidly, filling the pelvis and abdomen, and causing displacement of the uterus, compression of the bladder and ureters with associated symptoms, digestive disturbances, abdominal discomfort, and menstrual disorders. As a rule, the mass can easily be palpated through the vagina. Not always, however, can one determine its nature or exact location, as a number of conditions may present similar findings.

All tumors of the ovary should be promptly excised if the patient's physical condition permits. There are several reasons for urgency in this matter, chief among them being the danger of malignancy and the likelihood of rupture. In my own experience, two patients have had a ruptured ovarian cyst, accompanied by shock and all the severe symptoms of an acute abdominal process. Age is no contraindication to surgery; the old as well as the young may be relieved of their symptoms with little risk.

I should like to call especial attention to those small ovarian cysts of endometrial origin whose nature has been recognized only within the past few years. These growths are popularly known as "chocolate cysts" because of the fact that they are filled with hemorrhagic material, implants of uterine or tubal epithelium. Small raspberry-like deposits are also observed on the surface of the ovary. When the cysts rupture, the tarry contents escape and become implanted upon the peritoneal surfaces. The condition as a whole is known as endometriosis. The inciting agent is not known, though persistent retroversion and the Rubin test are believed to have some influence.

The chief symptomatic evidence of endometriosis is severe menstrual pain when formerly no such pain was experienced. As the condition is progressive, surgical extirpation is advisable. The possibility of malignancy is also a consideration not to be overlooked. At operation, the diseased ovary or ovaries, and, if possible, all the endometrial deposits should be removed. If adenomyomata are found on the rectovaginal septum, complete hysterectomy is indicated.

EXTRA-UTERINE PREGNANCY. The possibility of extra-uterine pregnancy with its attendant dangers constitutes a very real reason why a patient should present herself for examination as soon as pregnancy is suspected.

This anomaly arises from some interference with the normal passage of the fertilized ovum through the tube, such as polyp, atresia or a fetal type of tube, a decidual reaction within the tube, torsion, or compression by adhesions or tumors. The primary forms are ovarian, interstitial and tubal, the last being by far the most common.

Ovarian pregnancy is more likely to proceed to term than the tubal form. In interstitial pregnancy the sac may be extruded into the uterus and fetal development continue to term; as a rule, however, the sac ruptures into the broad ligament or abdominal cavity early in the course of gestation, producing a fatal hemorrhage. Tubal pregnancy frequently terminates in tubal abortion, and occasionally the sac ruptures into the abdominal cavity or passes through the fimbriated end of the tube, proceeding to term as an abdominal pregnancy. The usual course, however, is rupture into the abdominal cavity or broad ligament and death of the fetus. If, as occasionally happens, the patient survives the immediate catastrophe without operation, the mass within the abdomen may give rise to suppuration and peritonitis or may be walled off by adhesions; in the latter event, it will subsequently become involved in an abscess and be discharged through a fistula in the rectum, vagina or abdominal wall, or, rarely, the soft structures will be absorbed and the skeleton retained indefinitely as a lithopedion.

As a rule, tubal pregnancy presents no unusual early symptoms. Many patients report an alteration of the menstrual cycle, particularly a spotting, rather than a complete cessation of the menses. After six to eight weeks the patient is seized with pelvic pain, usually upon exertion. The pain is intermittent and varies in intensity, though generally it is acute and knife-like, and is referred to the region of the shoulder. If the internal hemorrhage is excessive, the patient presents all the signs of collapse from severe blood loss.

Examination will reveal the uterus enlarged, and on the affected side an exquisitely tender mass. A hematocele may also be palpated in the culdesac. If the pregnancy has persisted for as long as five months, the mass will be found in the abdominal cavity and fetal movements may be detected. The presence of free blood in the peritoneal cavity will be evidenced by discoloration about the umbilicus.

The proper treatment of tubal pregnancy is immediate laparatomy, control of the hemorrhage, and removal of the mass. If the condition of the patient permits, the tube and ovary on the opposite side should be examined for evidence of an inflammatory process and, if found diseased, removed. In the presence of a full term abdominal pregnancy with a living fetus, one point should be borne in mind: Under no circumstances should the placenta be removed. Forcible separation will cause uncontrollable hemorrhage, or, if it is attached to the wall of the intestine, a fistula will be produced. After removal of the fetus, the edges of the sac should be sutured, if bleeding, and the gauze packed against the placenta. A portion of the gauze should be removed daily, the entire amount being withdrawn on the fourth day.

In the foregoing discussion I have merely touched upon the salient features of a few gynecologic problems. Viewing the whole subject broadly, one point appears to deserve emphasis: So closely associated are the female pelvic structures that often a pathologic condition or abnormality of one organ involves one or more others directly or indirectly. This being true, in the diagnosis one should always be guided by a thoughtful consideration of all the possible complications, in the treatment, by an appreciation of the far-reaching consequences, primarily to the individual, and secondarily to society itself.

Transplantation of the Cornea as a Means of Restoring Vision

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IN RECENT YEARS corneal transplantation has created wide interest; first, because of the fact that a tissue is transplanted from one individual to another; second, because a certain number of people have been made to see by this procedure who without it were doomed to permanent blindness; and third, because of the many difficulties which have been overcome in the development of a successful technic.

Opacity of the cornea is caused by many conditions. The most frequent of these are interstitial keratitis, corneal ulcers,—especially those resulting from gonorrheal ophthalmia—injuries, burns and corneal dystrophies.

The restoration of vision which had been lost as a result of corneal opacity has been the concern of ophthalmologists from time immemorial, but it has been only in the past few years that consistently successful results have been obtained.

The earliest recorded attempt at substituting a transparent medium for the opaque cornea was made by de Quengsy in 1789. He used a glass disk sutured into the place of the removed cornea. The eyes would not tolerate this foreign substance and all required enucleation. In the first half of the nineteenth century, reports of animal experimentation appeared, but the results were so discouraging that efforts were discontinued.

In 1867, von Hippel devised a mechanical trephine with which he cut a round section of the corneal opacity and replaced it with a similarly cut section of clear cornea. This represented a step forward in technic, but no significant results were reported on human beings. His work did stimulate others to further experimental work. Lohlein devised a twin-bladed knife which enabled the operator to cut out a rectangular section and graft of the same size. Various methods of holding the graft in place were advocated. Some used a conjunctival flap and others used sutures. For numerous reasons, which are now apparent, successes were few and not of a very high order until Elschnig reported his series of cases in 1930. He pointed out most of the factors upon which successful keratoplasty is based today. He used the von Hippel trephine to cut out a round segment of the full thickness of the cornea over the pupil. He held the similarly cut graft in place by sutures overlaying the graft rather than into its substance. Thomas later demonstrated conclusively that sutures placed in the graft invariably caused opacification of the entire transplant. He used the trephine to outline the section and finished the excision with fine scissors. Filatov inserted an ivory spatula behind the cornea through previously made incisions and cut down on this with the trephine. Castroviejo devised a twin-bladed knife and fine scissors with which a section four millimeters square was cut. The graft was held in place by a suture in the cornea which overlaid the transplant holding it snugly in place. He showed by microscopic studies that a section cut with the twin knife and scissors gave a smoother wound than that cut with the trephine.

In the experimental work on rabbits I used the various technics of Elschnig, Thomas, Filatov and Castroviejo. I found the technic of Castroviejo to be the best adapted to meet all the difficult situations that arise in the course of corneal transplantation. Consequently, I have used this technic in the twenty-one human cases which form the basis for this report.

INDICATIONS FOR TRANSPLANTATION

The indications for corneal transplantation depend upon the cause and extent of the damage to the eye, but in general it might be said that any case of corneal opacity which seriously impairs vision calls for a corneal transplantation. Unfortunately, there is often damage to the ocular structures beyond the cornea as a result of trauma or toxins associated with the cause of the opacity. The extent of this damage cannot always be determined before operation. Many cases must be operated upon in which the prospects seem very doubtful, as a blind person is grateful even if he is enabled to see only large objects. In one instance a boy had only one eye and this eye had been badly damaged as a result of a burn. He was able to see only a large letter held close after the operation, but he is one of my most grateful patients.

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Material for Transplantation

Numerous attempts have been made to transplant the cornea of animals to the human being without success. The grafts would seem to take at first but were invariably replaced by scar tissue. The same has been found to be true when attempts were made to transplant cornea from one species of animal to another.

The source of material, then, is limited to the human eye. The graft may be taken from the eye enucleated from a living person or from a cadaver. Suitable eyes from the living are limited almost entirely to those enucleated because of intraocular tumor. Eyes removed as a result of injury or glaucoma have rarely been acceptable. An eye may be used for transplantation if removed within ten hours after death. The cadaver eye has proved to be equally as good as the eye enucleated from the living. Upon removal of the donor eye it is placed in normal saline until ready for use. It may be used immediately or kept in the refrigerator at two degrees to six degrees C. for as long as three days and still be in perfect condition for transplantation.

Contraindications to the use of an eye with a healthy cornea are few. Some surgeons have hesitated to use an eye affected with sarcoma of the choroid, but the eye enucleated for this cause is the chief source of material and no case of transfer of the tumor has been reported. The question of what general diseases would contraindicate the use of an eye has not been settled. It is the consensus, however, that the eyes of untreated syphilitics should not be used. Blood compatibility has been found to have no significance. The age of the donor seems to be of little importance as grafts have been transplanted with equal success whether obtained from the six months' old fetus or the old man.

One of the principal obstacles encountered has been the lack of a constant and dependable supply of cornea for transplantation. The supply of suitable eyes enucleated from the living is extremely limited and the eyes of cadavers are rarely obtainable in this country. In one instance, however, a man affected with progressing pulmonary tuberculosis willed his eyes for transplantation. Three grafts were obtained from the two eyes.

Results

The results of the twenty-one transplantations which form the basis for this report are briefly summarized in the accompanying tables.

Table I is a classification of the condition of the graft after healing has been completed. The cases included have been observed from eight months to three years. Any degree of resulting transparency of the transplant may be expected to give a corresponding improvement in vision, other factors being equal, and is considered a successful transplantation.

Visual results are summarized in Table II. When vision of 20 200 or better is obtained the result is considered good. Improvement was noted in five cases. In those classified as worse vision was reduced only from the ability to perceive motion to light perception. One graft was lost from infection.

In order to evaluate the visual results fairly, one must take into consideration the pathologic conditions other than the corneal opacity present in the eye receiving the transplant. There are very definite indications as to whether an eye is favorable or unfavorable for corneal transplantation. Table III presents a comparison of the visual results in the favorable and unfavorable cases. The case is considered successful if the vision is appreciably improved.

TABLE I

Condition of the Grafts at Last Observation

Transparent	9
Semi-transparent	6
Opaque	5
Graft lost	1
	21

TABLE II

Visual Results

20/200 or better	8
Improved	5
Unimproved	5
Worse	3
	21

TABLE III

Visual Results in Favorable and Unfavorable Cases

Favorable cases	7	Successes 86%
Unfavorable cases	14	Successes 57%

Summary and Conclusion

It has been the purpose of this paper to review the subject of corneal transplantation. The development of corneal transplantation, the indications for operation and the source of material are briefly discussed. The results obtained in twenty-one cases are presented.

The advent of successful corneal transplantation has contributed a fascinating chapter to the development of ophthalmology and has brought an important addition to the established methods of restoring vision. It has its application in a group of cases which heretofore have carried a hopeless prognosis.

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The Management of Fractures of the Facial Bones

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The speed at which man now travels and the proximity to gigantic forces to which he is exposed in industry and war are the factors which are increasing the number and severity of fractures of the face. The management of these injuries may be considered during the accidental or emergency period and the late corrective, which require plastic surgery. The general condition of the patient will determine the time of operation and the physical findings are the guide post as to the procedures necessary for the correction. If there is any question as to the presence of an intracranial injury, manipulations of the bones of the face should be postponed, except for the control of hemorrhage or the closure of open wounds. The loss of cerebrospinal fluid through the nose is an absolute contra-indication to immediate interference.

External Nose

The anterior position of the nose exposes it to injury and deformities of it are noticeable and detracting. Individuals with badly shaped noses become conscious of their deformity and many suffer inferiority complexes because they are constantly accusing their listeners of observing their nasal blemish, instead of being attentive to their discourse. The external nose consists of a bony and a cartilaginous portion. The attachment of the cartilages to the bony base may be easily separated. The reattachment is maintained in a good position by a light intranasal pack for two days and a light adhesive dressing externally for a week or ten days. The fractures of the bony external nose are the most frequent of the facial fractures. The deformity depends on the line of force which was applied. When the force is lateral, the approximate nasal bone is displaced under its mate and if the force was sufficient, the nasal process of the superior maxilla is cracked and depressed, the septum being deflected.

The correction demands the application of the law of physics—"two objects cannot occupy the same position in space at the same time." The depressed nasal process and the nasal bone are first elevated, then force is applied to the opposite side of the nose by a blow of sufficient power to knock the displaced bones into their normal position. A wooden protector for the nose is used as a guard and a small metal nasal hammer as the instrument of force. If the cause is seen early, this can be accomplished under local anesthesia, but it is best to administer a general anesthetic, as better results are obtained. The best outer dressing is made of Kerr's dental wax, which will mold to fit the nose. It is fixed with adhesive plaster to the forehead and several adhesive strips over the nose. Metal external splints or mechanical appliances may be used.

There is a variety of nasal fractures, the result of force directed from in front, which depresses inwardly both nasal bones and rotates outwardly one or both nasal processes of the two superior maxilla. This injury is easily produced by a blow with "brass knucks," or a fall forward against an object like the dashboard of an automobile. The deformity is characteristic. The nose is very broad, being spread all over the face. The bridge is sunken. On palpation the nasal process of either or both maxilla will be found to conform with the above description. The correction of this fracture requires a partial open operation. An incision is made within the nose to expose the nasal process. With a small saw, the process is sawed through along its base, being careful not to injure the contents of the orbit or the lachrymal apparatus. The nasal bones are elevated by force. At times they have to be rocked free of their impaction into the frontal bone. A sharp blow with force directed laterally will rotate the nasal process toward the median line. This procedure reduces the broad base of the nose. The septal deflection will require a submucous resection to release the parts of the fracture that are old or to improve the breathing space. The nose is packed and a mechanical appliance is applied to hold the process in position. The administration of calcium will aid in the control of the swelling.

I have seen but once in private practice the opposite deformity, that is, when the nasal bones were displaced outwardly. This occurred in a young instructor of a Girls' Scout Camp. A delayed explosion of a bomb caught her while inspecting the dud. The force of the explosion struck her from below and went up her nasal passages and blew out the front of her nose. Her deformity was like an exploded firecracker. Our nasal problem here was to depress the nasal bones and to rotate inwardly the nasal processes. There was considerable loss of the cartilaginous portion and several operations were necessary to rebuild her nasal vestibules.

PRE-EXISTING DEFORMITIES

Pre-existing deformities can be corrected if care is attended the setting of the new fracture. Many noses are of better shape after a proper reduction than they were before the injury.

MALAR BONES

Blows received in fighting, falling or being forcibly thrown forward during a collision usually land on the malar prominence, which is easily displaced. The malar bone may be displaced forward, backward, inward or outward, and these displacements can be easily felt on palpation. In any event its articulations are severed. The bone comprising the external and posterior surfaces of the superior maxilla is thinner than that of the malar process, and crushes after the fashion of an egg shell. At times this irregular fracture will start at the inferior margin of the orbit and circle around the base of the malar process, ending at the junction of the posterior wall and the palate bone. This type of injury tears the antral membrane, and its cavity fills with blood.

A roentgenogram of a typical case will present a cloudy antrum on the injured side and an inward or outward rotation of the malar bone, with a change in the transverse diameter of the corresponding orbit.

A study of the normal orbit in the routine postero-anterior sinus film will show a line in the outer third made by the junction of the outer orbital wall and the skull. This line bears a constant relationship to the outer rim of the orbit and may be used to determine whether or not the malar bone has been displaced. The transverse diameter of the orbit is altered in these fractures, being increased in case of outward displacement and decreased in crushing injuries in which the malar is rotated inwardly. This relationship and diameter are controls, available for use in determining the correct position of the parts after the resetting of the fractures.

The malar bone and the firm bone composing the malar process of the superior maxilla are displaced in the direction of the force. The articulations of the malar give away with a resulting separation of it from the frontal, the temporal and the superior maxilla. At times the fracture extends forward into the ethmoidal cells. These cases present a typical deformity, the malar region being depressed. Gill has suggested the use of special forceps similar to large towel forceps to reduce malar displacements. The bone is grasped through the skin, and traction is applied with palpation as a guide. If successful, this method is safe and simple and leaves no scar, and the absence of an open wound reduces the possibility of infection. If the antral wall is badly depressed, the force exerted to replace the fragments must be intra-antral. When the fracture is limited to a displacement of the malar bone or extends into the upper part of the superior maxilla, the teeth may remain in their normal position, though biting be painful. In this type of fracture, I often make an intranasal antral window through which is inserted a large Ritter sound. Pressure from within while traction is applied externally will reduce the fracture. Seldom is it necessary to take measures for the retension of the fragments in their normal position. If the anterior wall is badly comminuted, I prefer doing an open operation. The usual buccal approach of the antrum is made and the fragments are studied. Those which can be retained are replaced into their proper position and the others removed. The muscular attachments to the fragments are capable of preventing their free manipulation and at times have to be separated before a satisfactory reduction can be obtained. Packing is seldom needed, but drainage should be maintained. This is the type of fracture that I prefer for an open bite splint, but at times the splint is not practical and the wiring of the lower teeth to the upper teeth is the best method of traction to pull the upper fragments into a good position. Always remember that no case has been satisfactorily treated unless a good bite is the end result. It is difficult to keep a mouth so wired in a healthy state, and for that reason I prefer the splint, as soon as my dental confrére is satisfied that the upper fragments are in good position. Once the splint satisfactorily holds the upper fragments and the lower jaw can be released. the patient becomes contented and the proper hygiene of the mouth can be instituted. The daily administration intravenously of five grains of sodium cacodylate for five days and thereafter twice a week will retard the growth of any organisms of Vincent's. It is an unhappy experience for the patient to acquire a chronic Vincent's infection, even though the surgeon has gained a perfect surgical result.

A blow struck with horizontal force against the front of the upper jaw will produce a transverse fracture of the superior maxilla and at times inflict an injury to both maxillae. This fracture presents a characteristic change in the features of the person injured; the upper teeth drop down on the lower jaw elongating the features, producing the so-called "horse face." At times this fracture extends into the nose and mouth. One of my patients suffered such an accident by having his head jammed between the floor of a freight elevator and a half gate. The ramus of the inferior maxilla may sustain a sudden strain, and often snaps, with an added downward displacement of the lower teeth. These cases demand immediate reduction, care being used to obtain a good apposition of the teeth. The lower jaw fracture should be reduced and anchored in position. These fractures are seldom single and each case is a rule unto itself, but immobilization should be started to a solid base. The skull cap can be encased in plaster, and supports anchored into the plaster. From these fixed supports, other supports or appliances should extend to the fractured parts. If there are multiple fractures involving the upper and lower jaw, it is necessary to wire the jaws in position. This is important to assure a free and unlimited movement of the lower jaw after the fractures have healed.

I saw a man who had a locked jaw due to the neglect of not having the alveolar processes slid forward into their natural position, and the resulting vicious union locked the lower jaw. When first seen by me, he could separate his gums less than an inch. I had to separate the old fracture and displace forward the upper alveolar processes and hard palate. Unfortunately, in this case the ramus of the jaw on the left side had been fractured at the time of the injury, and being unrecognized, had healed in a bad position, leaving him with a limited motion of the lower jaw.

The after-care of the open case is the same as after a radical operation. The patient should be instructed to report back whenever he contracts a head cold, and the local condition should be treated to avoid a sinus infection. These sinuses have sustained a permanent injury and are now more subject to infection than before the accident. Furthermore, the infection readily escapes through into the soft tissues, and adequate drainage should be maintained. If there has been a through and through wound of the cheek, it is best to close tight the mucous membrane and drain the skin wound.

The zygomatic fractures are usually the depressed type and like fractures or displacements of the malar bone rarely interfere with the bite, but due to the attachments of the muscles of mastication interfere with chewing.

Roberts has suggested the elevation of the depressed zygomatic arch by the use of an instrument like a screw porte. Through a small skin incision the malar bone is bored into and with traction the bone is elevated into place. Gillies uses for this same deformity an elevator which he passes down under the depressed bone and elevates the fragments. His incision is made in the skin at the hair line and dissected down through the temporal fascia. Utilizing this same principle, I have made a buccal incision and elevated the depressed arch from below. The latter is preferable, when the zygomatic fracture accompanies one of the fractures requiring a buccal incision for an open operation. This contracontraction of the masseter muscles will maintain an arched position when once reduced and no splint is required.

FRONTAL SINUS

Perforating fractures are more common in frontal sinus injuries than in maxillary fractures. It requires force and velocity to penetrate the thick outer wall of the frontal sinus, and fortunately its thin inferior surface is protected. The management of the frontal sinus fractures depends on whether the fracture involves the outer and inner walls or just the outer wall. If the fracture does not include an injury to the inner wall, drainage by the natural route through the nasofrontal duct will suffice. The external wound should be cleansed, and all loose bone removed. It may be closed with minimum drainage. The bony wall is readily palpated and any displacement easily adjusted. It is seldom necessary to enlarge the soft tissue opening to reduce these fractures. The nasal membrane is entitled to the same attention as during an acute frontal sinusitis to secure free drainage of the sinus by way of the frontal duct. Should the frontal duct prove inadequate, the drainage will back out of the wound. This promptly becomes evident.

When the inner or cranial wall is injured, an open inspection with external drainage is preferred by most surgeons. The presence of cerebrospinal rhinorrhea emphasizes this necessity. The wound through the outer wall is enlarged, and sufficient membrane is stripped off the inner wall to expose the fracture of the inner table. If the bone is depressed it should be elevated, and should there be an aperture in the inner wall it may be enlarged to expose the dura. External drainage is continued through a rubber tube until the discharge has ceased. If the dura is torn, it is mended. Every effort should be made to prevent the frontal sinus membrane from invaginating into the fracture, as there is great danger that there will remain a potential fissure, through which future infections may penetrate into the cranial cavity.

Severe blows exerted in a glancing direction from above onto the forehead or from the side striking the under surface of the malar process will separate the face from the skull. The line of fracture often extends across the anterior wall of both frontal sinuses, and in one of our cases it was necessary to wire in position the anterior wall of the right frontal sinus to the skull and to wire the outer angle of the orbital rim to the outer wall of the orbit.

FRACTURES OF THE ALVEOLAR PROCESS

Occasionally, the only fracture sustained by the patient will be a fracture of the alveolar process containing the upper incisor teeth. The following is a case representing such an injury: Miss J. L. was thrown forward and struck the dashboard of an automobile, apparently her mouth was open at the time of the compact and when seen at the hospital, the upper incisor teeth were turned upwards under a badly lacerated lip. The correction of this type of deformity is very simple. The blood supply to the fragment is usually sufficient to maintain a healthy repair. The teeth may be held in place by wiring or the use of a bar splint. For the emergency care of such a case, I use a piece of the ordinary metal coat hanger. In the operating room, I have a small vice and with a pair of pliers, the metal is manipulated in a suitable arch and held in place by interdental wires. The wounds of the lip are carefully sutured using black silk for the mucous membrane and dermal for the skin. Care must be taken in the coaptation of the edges of the wound, so that the vermilion border of the lip will be maintained in proper continuity. If the fracture has severed a tooth from its root, the latter should be immediately removed, but if the tooth has remained intact, it is best replaced for the time being, in order to serve as a splint for those teeth expected to survive. If the fracture is more extensive, as represented in Mrs. J. A. K., and presents multiple fractures of the palate, the problem of maintaining a healthy blood supply becomes difficult in the face of the usual mouth infections. This lady was first cared for with a bar splint and an open reduction of her right antrum. Fortunately, she had so few upper teeth, that I did not worry about her future bite. Finally, the few upper teeth were removed and a plate was made.

Mr. B. B. A case of complete fracture anteroposterior of the hard and soft palate, presented two difficult problems: First, when extricated from the wreck his breathing was labored and only through the clever first aid treatment of the attending surgeon was his life saved. The doctor recognized that the obstruction to breathing was the result of his palate and passed a rubber catheter through each side of the nose and extracted an end through the mouth. Traction was maintained by firmly clamping the two ends of the catheter in the grasp of a heavy forcep. This procedure elevated the palate from off the tongue, thus clearing the airway for a less laboring breathing. The second problem confronted me. The right antrum had suffered a depressed fracture of the anterior wall, which required an open operation for reduction. An extensive incision would have jeopardized the blood supply of the right half of the palate, yet the reduction of the depressed fractures was imperative if a bite was to be obtained. A bar splint was used to hold the two halves of the palate into position and through a small incision, the fragments of the anterior wall of the right antrum were elevated.

PALATE FRACTURES

In the anteroposterior fractures of the hard palate, the two halves may be separated or overlapped. In the former, the dental arch is spread, while in the latter there is a thickening of the palate due to the overlapping. Manual palpation will determine the extent of the fracture and a roentgen ray examination will verify the findings and also demonstrate whether the maxillary sinuses have been injured. The treatment consists in wiring the teeth of the sound side of the maxilla and mandible, after having placed the fragments in their proper position as judged by the occlusion of the teeth. If restoration of normal occlusion is not possible, the arch may require spreading or traction when the fragments are displaced; the usual orthodontic appliances will be found satisfactory. The open bite splint may be worn during convalescence.

CONCLUSION

The rhinologist is best prepared to treat fractures involving the paranasal sinuses. The reduction of the fractures, preservation of bony fragments, and the protection of the sinuses are the underlying therapeutic principles.

Points for the General Practitioner on Cancer Therapy

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DURING THE PAST decade methods of treating cancer, regardless of its location, have been materially improved. Progress in this respect has been brought about chiefly by further education of the profession, not only in the most effective methods of treatment, but particularly as to the significance of early recognition and accurate diagnosis of the disease. It is probable that the educational program directed toward enlightenment of the laity has also been instrumental in increasing the number of early diagnoses.

Even a brief discussion of the merits of the various therapeutic procedures employed for the more commonly encountered malignant diseases alone would be beyond the scope of this paper, nor would such a discussion be of practical value to the general practitioner who has neither the equipment nor the time for the treatment of cancer patients. It seems worthwhile, however, to review the salient features of the treatment with particular reference to the time required and the reactions incident to destruction of the malignant process which the patient must endure. Too often, patients referred by competent physicians have been led to believe that they can receive x-ray or radium therapy upon their arrival in the specialist's office and be permitted to return home with the expectation of permanent cure, or return after an interval of a week or ten days for additional treatment. It is true that in the early days of radiation therapy such a plan of management was followed; this, no doubt, accounts in part for the widely varying instructions given patients by different doctors. Patients who have cancer need great confidence in their physicians, and this is not inspired by misleading descriptions of the treatment required.

The treatment, moreover, no longer consists solely of irradiation. Just as the surgeon of today examines his patients thoroughly that he may better judge the type of operation best suited to their needs, and prepares them by proper supportive measures, so also should the roentgenologist study cancer patients and prepare them for the necessary x-ray and radium therapy. Sources of infection must be eliminated, anemia must be combated, and the patient's resistance must be reinforced by suitable medication and diet. Correction of these conditions goes far toward increasing the effectiveness of the treatment directed toward the cancerous lesion.

The trend in cancer therapy has been more and more toward the use of irradiation. This has been brought about by (1) the development of more accurate means of measuring the dosage of radiation used, (2) a better understanding of the dosage required to destroy malignancy in the different histologic structures, (3) the manufacture of x-ray equipment and applicators for radium with which the required dose can be delivered to the adjacent normal tissues, and (4) a realization on the part of radiologists that the the tumor itself with a minimum injury to general health of patients must be maintained in order to enable them to withstand the intensive treatment necessary to destroy the lesion.

MALIGNANCIES OF THE SKIN

Approximately 95 per cent of epidermoid carcinomata are best treated by irradiation, the x-ray being employed in 95 per cent of these. An exception is presented by pigmented lesions; these cancers, being extremely radioresistant, should be treated surgically.

In order to destroy the growth and prevent recurrence, the rays must be directed toward a limited amount of the surrounding normal tissue as well as to the lesion itself. The treatment must be completed within seven to ten days; prolongation of the course by the administration of small divided doses encourages radioresistance of the cancer and increases the likelihood or permanent damage to the adjacent tissues.

In the usual case, the only discomfort is a smarting, burning sensation at the ulcer site. If the irradiated area overlies cartilage, however, a chondritis will develop and the discomfort will be more pronounced. A slight discharge and crust formation requires attention for a period of approximately three weeks. Repair will be complete within thirty to forty days.

CARCINOMA OF THE CERVIX

Through the voluminous literature which has appeared within the past two decades on cervical cancer, the general practitioner of today is more familiar with the early picture and proper method of treatment of this lesion than of any of the major malignancies. The superiority of radiation therapy over surgery is now universally recognized. Less well understood is the necessity for early biopsy, and hygienic and supportive measures to help the patient withstand the intensive irradiation. These measures should be instituted as soon as the diagnosis is made, in conjunction with x-ray therapy to the pelvis. Irradiation is given for twenty-five to thirty days, depending upon the size and general health of the patient and the extent of the disease process. During the course of treatments, the pelvis should be examined weekly to determine the status of the infection as well as of the malignancy.

The majority of patients experience a definite improvement in general health and sense of well being from the treatments, although they suffer some discomfort from dermatitis over the irradiated areas of the pelvis. The dermatitis appears during the last week of treatment and continues from ten to fourteen days, but is rarely sufficiently severe to warrant the application of dressings or other local treatment.

Radium should be introduced upon completion of the x-ray therapy. This necessitates hospitalization of the patient for five to seven days. A light general anesthetic must be administered for insertion of the radium, but is not required for its removal. Within a week or ten days following withdrawal of the radium, some discomfort in the bladder and rectum is to be expected. If this is anticipated by the physician and the usual care exercised in its correction, the symptoms rarely persist longer than ten days.

CARCINOMA OF THE BREAST

The most widely accepted method of dealing with cancer of the breast is by application of a thorough course of x-ray therapy to the entire breast and axilla, followed by surgery. Fifteen to twenty-one days are required for completion of the irradiation. Hospitalization of the patient is seldom necessary.

A radiation dermatitis, which usually results in complete loss of the upper layers of the skin in the axilla and beneath the lower edge of pendulous breasts, begins about the fourteenth day of treatment, causing some pain and discomfort. Healing is practically complete and the pain subsides within an additional fourteen days.

A radical breast amputation is carried out six to eight weeks after conclusion of the x-ray therapy. This procedure necessitates hospitalization for a period of ten to fourteen days.

If the growth is too far advanced for surgical removal, a further course of x-ray therapy may be given eight to ten weeks after the first series, as a palliative measure. Occasionally, a patient in this group survives for a period of five years following x-ray therapy alone.

CARCINOMA OF THE MOUTH

Because of its location and complications, cancer of the mouth presents one of the most difficult therapeutic problems with which the profession has to deal. For a long time, cancer in the mouth was considered incurable; death was usually caused directly by toxemia starvation and deficiency states, or by secondary obstruction of the air passages. By modern methods of treatment, approximately 30 per cent of patients with cancer of the mouth may be cured, and all those with an advanced growth may be remarkably relieved.

The correct management of cancer of the mouth involves a consideration of the following points:

1. General hygienic measures
2. Attention to diet and care of general health
3. Treatment of the primary lesion
4. Treatment of complications.

GENERAL HYGIENIC MEASURES. These patients have as a rule, extensive infection and sepsis when they present themselves for treatment. Such a condition is a serious complication, being further encouraged by the necrosis produced by irradiation. Fortunate is the patient who happens to be edentulous; teeth interfere with oral hygiene, handicap the radiologist in carrying out treatment, and lead to subsequent dental difficulties. If teeth are present, the co-operation of a competent dentist is essential. In cancer of the floor of the mouth, extraction of a part or all the teeth may be necessary before treatment is begun. Those which are allowed to remain must be thoroughly cleaned and the patient given instructions in their further care. During the course of treatment and until healing is complete, the mouth must be irrigated every few hours with large quantities of a weak solution of soda and salt.

DIET AND GENERAL CARE. Because of the soreness and pain of the mouth, these patients often restrict their diet so severely as to develop nutritional deficiencies or avitaminosis. Such conditions present serious handicaps to the healing of mouth lesions. A balanced diet of liquids and soft foods should be outlined and the patient impressed with the importance of following these instructions faithfully. In addition, vitamin B complex, vitamin C, and anti-anemic measures should be given to stimulate the patient's recuperative powers.

TREATMENT OF THE LESION. The use of so-called deep therapy (x-ray generated by high voltages and filtered through heavy filters), applied directly to these lesions through the mouth has materially reduced the complications of bone necrosis, so frequently observed in the past following the use of radium as the principal source of irradiation and the external administration of x-rays. Deep x-ray therapy is made possible by shock proof equipment and especially constructed cones which confine the rays to the lesion itself. By this means, an almost unbelievably large amount of irradiation can be given to small areas. The doses are divided and are of such intensity that the entire course is completed within twenty-one days. After its completion, supplementary radiation with radon emanations or small radium needles, carefully placed, is given. If radon seeds are applied, the patient need remain in the hospital only one day or part of a day. If needles are inserted, five to seven days of hospitalization may be required.

The reaction to the treatment begins within seven to ten days and increases until approximately the twenty-first day. Thereafter, the symptoms persist for fourteen days, then rapidly subside as healing takes place. The oral hygiene must be continued until healing is complete. During the height of the reaction, the mouth is usually so painful that local analgesics must be given or a nasal tube inserted to permit adequate nourishment of the patient.

TREATMENT OF COMPLICATIONS. Osteoradio necrosis of the mandible is the most common and most serious complication of mouth cancer. This condition results from destruction of the finer blood supply of the bone by cancercidal rays which strike the mandible; every effort should be made, therefore, to prevent large amounts of the x-ray from reaching the bone. Strict oral hygiene is also of value in preventing invasion of the mandible by an infectious process. Bone in which the blood supply has been destroyed by irradiation may not cause trouble unless exposed to infection by laceration of the soft tissues or by extraction of the teeth. In such an event, osteomyelitis may develop even years after the conclusion of the treatment.

The necrotic, malodorous ulcer which is so typical of this type of necrosis is best treated by gauze packs saturated with zinc peroxide. This not only serves as an excellent deodorant, but assists in arresting the spread of infection after sequestra are removed. Hemorrhage, usually from the lingual artery or its branches, may interfere with healing, necessitating ligation and separation of the artery. Many weeks, or even months, may be required to obtain complete healing and repair of an extensive osteoradio necrosis.

RECURRENT LESIONS

Recurrences are attacked with fairly high daily doses of x-ray. The skin reaction over the area treated is more intense than that produced by previous therapy. As a rule, however, the total area of skin affected is small and regeneration of normal skin is rapid and complete; as a consequence, the patient's discomfort is slight and of short duration in comparison to the results obtained.

METASTATIC LESIONS

X-ray therapy is used only for metastases to the skin and skeletal system. Little benefit is derived from irradiation of pulmonary metastases, and none from attempts to treat deposits in the liver.

In the presence of skin metastases, the procedure is similar to that outlined for the management of primary lesions. The reactions are likewise similar in intensity and duration.

Metastatic deposits in the skeletal system can always be profitably treated by x-ray therapy. Pain is rapidly relieved by relatively small doses, and considerable regeneration of bone is not uncommon. Since the amount of irradiation required is comparatively small, practically no skin reactions ensue. The relief obtained by this procedure far exceeds that obtained by the use of opiates and other sedatives, and is not accompanied by the systemic reactions incident to the use of drugs.

SUMMARY AND CONCLUSIONS

Progress in cancer therapy has been so rapid within recent years that even the specialist in this field has had difficulty in keeping informed of new developments. It is not surprising, therefore, that the general practitioner frequently leads patients to believe that treatment by radiation is a simple procedure, involving little time, expense and discomfort. The radiologist realizes that the complete destruction of all cancer tissue taxes heavily the endurance of the patient and requires precautionary and supportive measures not unlike those employed in the management of surgical patients.

Formerly, the fear of tissue reactions which healed slowly following cancercidal doses of radiation prompted many radiologists to give small doses over a prolonged period. The time to cure any form of cancer by irradiation is at the first attack. Normal and diseased tissues repair completely from one or two severe radiation reactions, whereas permanent injuries result from slight reactions produced repeatedly.

One may expect cancer to require three to seven treatments; these should be completed within seven to ten days. The reactions are severe but not extremely painful. Complete repair is usually observed within thirty days.

The x-ray treatment of cancer of the cervix requires twenty-five to thirty days, and is followed immediately by radium. The latter necessitates hospitalization of the patient for a period of five to seven days. In addition to radiation of the lesion, it is vitally important that hygienic measures receive adequate attention and that the patient be given a proper diet and anti-anemic medication. Reactions to the skin, rectum and bladder cause only moderate discomfort and seldom require sedation.

The preoperative treatment of cancer of the breast requires from fourteen to twenty-one days. The skin reactions cause definite discomfort, though not severe pain, and usually persist for ten to fourteen days after treatment. An interval of six to eight weeks should elapse between irradiation and the operation if the patient is to obtain the full benefit of the x-ray therapy.

Cancer of the mouth, one of the most serious of the major malignancies, is too often considered lightly by the general practitioner. Mouth ulcers which do not heal promptly should be biopsied. This procedure does not delay healing of a non-malignant ulcer and permits an accurate diagnosis when malignancy does exist.

Progress in the management of this lesion has been made possible by a proper consideration of oral hygiene, which must be carried out with the co-operation of a competent dentist; dietary and systemic measures to prevent complications incident to deficiency states; and recent developments in equipment which make it possible to attack the lesion directly, confining the rays to the malignant tissue and restricting damage to the adjacent healthy tissues to a minimum. A total of twenty-one days is required for completion of the x-ray therapy. This is followed by the use of radon implants or small radium needles. The reactions, both local and systemic, incident to such intensive treatment are severe, taxing the patient's fortitude.

Recurrences in the skin or chest wall, as well as metastases to the skin or skeletal system, respond favorably to x-ray therapy. Little is accomplished, however, by treatment of pulmonary metastases, and nothing by irradiation of metastases in the liver.

In brief, the success of cancer therapy by irradiation depends to a large extent upon the radiologist's ability to proceed with confidence in his attack on the malignant tissue, and upon the thoroughness with which the needs of the patient as a whole are studied and proper restorative measures are carried out.

The Etiology, Pathology and Rational Treatment of Hemorrhoids

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As MY TALK today is on "Etiology, Pathology and Rational Treatment for Hemorrhoids," I think it would be well to begin with the proctological definition of hemorrhoids. Hemorrhoids are varicose tumors involving one or more hemorrhoidal veins characterized by hemorrhage or prolapse; tending to interstitial fibrosis and spontaneous cure, or thrombosis and ulceration. A simple classification is internal, external or a combination of the two called externo-internal hemorrhoids.

Internal hemorrhoids are derived from the superior hemorrhoidal veins and are situated in the rectum above the mucocutaneous line and are covered with mucosa.

External hemorrhoids originate from the inferior hemorrhoidal veins and are covered by skin.

A patient comes to the doctor complaining of "piles" which he describes as itching, bleeding or blind, and we often make the mistake of giving him some simple salve or suppository for the complaint without properly examining the patient. By a proper examination I mean first insert the gloved finger and palpate all the rectal margins between the index finger and thumb. This way you will feel any fistulous tract, rectal abscess or tumor. Next insert a bivalve rectal speculum, and with the use of the head mirror you can see internal hemorrhoids, anal fissures and the condition of the anal crypts; also whether the rectal mucosa is normal or inflamed.

If these are normal put the patient in knee-chest position and make a sigmoidoscopic examination. Often you can pick up a polyp that is bleeding, causing diarrhea or abdominal cramps. At the same time you can make a smear for the different intestinal protozoa and often pick up a malignancy of the bowel which is operable that later on would be too late for surgery.

The etiology of internal hemorrhoids falls chiefly under two classifications: predisposing and exciting causes.

PREDISPOSING CAUSES

1. Under predisposing causes we mention the anatomical factor. Hemorrhoidal formation is far greater in man than in animal life due to the upright position that we assume. The hemorrhoidal area is drained by the superior hemorrhoidal veins directly into the portal veins which have no valves. Thus, the downward pressure at the most dependent portion, namely the hemorrhoidal region, and the fact that the areola and connective tissue are less dense in this field, predispose toward a venous engorgement.

2. Heredity—Not that hemorrhoids are inherited from the parents; but upon careful elicitation from the patient we often find their kin have suffered from hemorrhoids, varicose veins or varicocele. Thus, we see that though the patient does not inherit hemorrhoids there is present a structural weakness which makes him more liable to suffer with this complaint.

3. Senility is a direct contributing cause, due to the degenerative changes of all the body tissues. The sphincter loses its tone, the muscles become weak, allowing an engorgement of blood with a resulting hemorrhoidal condition.

EXCITING CAUSES

1. Physiological—Any condition which retards a free return of the blood from the hemorrhoidal and portal veins is a direct cause. Namely, heart disease, cirrhosis and tumors of the liver or any congestion of the liver. Overeating, particularly of highly seasoned foods, which irritate the intestinal mucosa, increases congestion. Hemorrhoids frequently occur after acute alcoholism due to congestion of the liver and bowels. Irritating cathartics are often the exciting cause due to the inflammatory reactions in the intestinal mucosa and the abdominal straining which results.

2. Increased Abdominal Pressure—By far the most frequent cause is chronic constipa-

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tion. The intestinal flora is allowed to become desiccated and hard; and at stool the abdominal pressure is increased many times, forcing the hard fecal mass directly against the venous return causing an engorgement and dilation. In many instances it scratches the mucosa or breaks down the small vessels, often resulting in anal fissures, hemorrhoids and the beginning of rectal abscesses and fistulae.

Other abdominal pressure is caused by whooping-cough, enlarged prostates and stricture of the urethra.

3. Mechanical —Of the mechanical factors we can consider the intrinsic and extrinsic. Of the intrinsic we have the different rectal tumors and strictures. Of the extrinsic there are pregnancy, retroversion of the uterus and abdominal tumors.

4. Infection —We believe that infection plays a big part in etiology of not only hemorrhoids and the formation of hemorrhoids but in the greater part of our sigmoid and colon diseases. Experience has taught us that, though we perform a perfect hemorrhoid operation, yet we leave diseased teeth, tonsils or sinus infections. The wound is slow in healing, often there are stricture formations, and many times return of the hemorrhoidal condition.

PATHOLOGY

Internal hemorrhoids as seen through the rectal speculum appear as longitudinal folds of mucosa, beginning at the pectinate line of true mucosa, and extending upward 2 to 4 centimeters where they flatten out into the rectal mucosa. Thus the hemorrhoid encroaches on the bowel lumen and we can readily see why the rectal mucosa is often prolapsed during the expulsion of hard fecal masses. Should this prolapsed mucosa not be replaced immediately, congestion, thrombosis and later gangrene are likely to ensue, necessitating immediate surgical procedure.

A typical hemorrhoid consists of a mass of dilated venules, a few unchanged arterioles, a connective-tissue stroma which shows chronic inflammatory changes and a covering of rectal mucosa which is usually from a light to dark purple in color and may or may not be ulcerated. Microscopic study shows that the muscular and elastic tissue in the vessel wall is replaced, to varying degrees, by fibrous tissue. The final product is a vessel, the thin wall of which is made up largely of fibrous tissue with an endothelial lining very vulnerable and prone to rupture. The rupture of the vessel is usually caused by hard fecal masses but may be due to ulceration of the mucosa.

Occasionally a thrombosis occurs in the diseased veins. The interstitial connective tissue shows inflammatory changes of a chronic productive character due to chronic congestion by blood extravasated from the veins and infection through the anal crypts. Due to the contraction of the fibrous tissue thus formed small veins are sometimes obliterated and we have a spontaneous cure of the hemorrhoid or formation of a fibrous mass. The mucosa in chronic cases may be thickened or intact; more often it is diseased and thinned out, followed by ulceration due to the devitalized tissue and the abundant intestinal flora to which it is constantly subjected.

Internal hemorrhoids that undergo fibrous degeneration occasionally develop into a fibroma and due to the constant irritation of hard fecal masses may become malignant.

TREATMENT

The treatment of internal hemorrhoids can be divided into local complications and the condition of the patient. In a well developed case of hemorrhoids the former may give passing relief but never permanent cure. Only in early cases, in constipated patients, who complain of slight bleeding and anal pain, and after a thorough examination which does not show any advanced pathological conditions, would we consider the palliative treatment.

In this class of patient we advise a limited protein diet, and abundance of fruit, both dried and fresh, and green vegetables. Mild laxatives may be used but never a drastic purge. Agar-agar and mineral oil may be prescribed as a bowel lubricant and it is often necessary to increase the intestinal bulk with one of the Psyllium seed formulas thereby stimulating the intestinal peristalsis.

The patient should try to have a certain time each day to go to stool but should never disregard the call of nature. This procrastination is often a forerunner of constipation. Before retiring at night it is often very beneficial to inject one or two ounces of olive oil into the rectum. This softens up the hard fecal mass and makes defecation less difficult. An ointment of nupercain may be injected into the rectum to relieve the minor irritations. Calmital ointment is very beneficial for external burning and itching.

HEMORRHOIDS COMPLICATING PREGNANCY

As we have mentioned before, anything that interferes with the venous return causes distension and varicosities. Thus hemorrhoids is one of the most common complications of pregnancy. Palliative measures should be carried out but if hemorrhages and prolapse are persistent and debilitating the hemorrhoids may be safely removed under local anesthesia without interruption of pregnancy. If the patient is safely carried through confinement with the palliative treatment she should then be operated upon after convalescence and before another pregnancy.

TREATMENT

This method is suitable in about 25% of the cases of internal hemorrhoids; external hemorrhoids are never to be injected. Internal hemorrhoids complicated by fissures, fistulae, polyps, anal ulcers, abscess and large skin tags, also inflamed and thrombotic hemorrhoids should be operated upon.

Technic—The rectum should be empty; the patient is placed in the left lateral position, the hips near the edge of the table and the right leg fully flexed at the knee and hip. Insert a medium size Brinkerhoff speculum. withdraw the slide about two-thirds and rotate until the hemorrhoid presents itself into the opening. The mucosa covering the hemorrhoid is dried and touched with some antiseptic solution at the spot you wish to make the injection. A goose-neck extension and a short sharp needle, together with an all glass Luer syringe, so you can accurately gauge the amount injected, are essential. The needle is inserted at the base of the hemorrhoids and advanced to its center; then inject very slowly 5 to 15 minims, depending on the size of the hemorrhoid. If there is pain it is a sign that the needle is in the muscularis; if there is blanching of the mucosa, your fluid is too superficial or too much has been injected.

Treat only one hemorrhoid at a time. Treatments may be given at five- to seven-day intervals and it usually takes about five treatments for the average case.

Cure of the hemorrhoid is supposed to be due to the inflammatory reaction that takes place within, causing fibrosis and contracture. You have probably noticed that I have refrained from mentioning the different solutions used for injection. This was intentional on our part because the proctological department of the University of Tennessee firmly believes that it is a dangerous procedure.

It costs the city of Memphis $3.33⅓ per day to keep a patient in the John Gaston Hospital. Surely we would save that money if a simple injection would cure the condition; but experience has taught us it is cheaper in the long run to remove all the pathology at one time surgically, thereby avoiding the too often postinjective complications and the usually long hospitalization. Every year about 75 students take this course, the majority of whom will practice in small towns where there are no hospital facilities. If this injection should be taught them, they, instead of selecting the few that probably could be treated, might be prone to inject all, which would result in serious trouble.

We believe that the injection method, at best, is only palliative. It is impossible with this treatment to get rid of all the pathology that accompanies hemorrhoids. The sequelae of this method too often result in fibroid nodules of the mucosa which are a source of irritation and pain to the patient. Often there is a slough of the mucosa and muscularis with resulting perianal, ischiorectal, and superior pelvirectal abscesses, and the inevitable fistula formation.

To illustrate the dangers—we have in our city now a very prominent man who was injected and has some of the above mentioned complications. Since then he has undergone several operations without a cure and will remain an invalid the rest of his life.

Another case—a young doctor of our city was injected with the result that he remained in the Memphis hospitals and several of the northern hospitals for 2½ years before he was able to resume practice.

We see in our office, charity clinic and the John Gaston Hospital every week the bad results from injection treatment, either the return of the hemorrhoids, painful proctitis, abscesses or the different forms of fistulae, which require surgical measures and a much longer loss of time for the patient than if a simple surgical procedure had been carried out in the beginning.

ELECTRICAL TREATMENT

Under electrical treatment we may mention the electrocoagulation or surgical diathermy, which is about the same as the clamp and cautery; except in the former the heat is due to the resistance of the body tissues and the volume can be easily brought up to the coagulation point, while in the latter the burning comes from the outside. To do this operation you will have to have a special diathermy hemorrhoidal clamp which is applied to the hemorrhoid with the same precautions as though you were going to do a clamp and cautery operation. The current is applied until the base of the hemorrhoid is coagulated to a thin gray color; then the hemorrhoid superficial to the clamp is cut off with the electrical knife. The patient's bowels should be thoroughly emptied before this procedure and a local or general anesthesia given. He should remain in the hospital at least 5 or 6 days to avoid danger of hemorrhage and to relieve retention of urine which usually complicates or follows any hemorrhoid operation.

Galvanic current for uncomplicated internal hemorrhoids has been used several times by the author with good results, but only in cases where the condition of the patient was such that an operation was not advisable at that time; i.e., a pregnant woman who had threatened to abort and in some old debilitated cases.

An indifferent electrode connected to the positive pole well saturated in sodium bicarbonate solution is placed under the patient's left hip and with the aid of the Brinkerhoff speculum the offending hemorrhoid is brought into view. Then, a steel needle with a point of $\frac{1}{8}$ to $\frac{1}{4}$ in. long which is connected to the negative pole is inserted into the uppermost portion of the hemorrhoidal mass in the longitudinal axis of the vein. If done correctly there will not be any pain either during the insertion of the needle or when the current is turned on. The patient receives 10 to 15 milliamperes for 10 to 12 minutes or until the hemorrhoid begins to change to a Malaga grape or nearly black color. The current is then turned off slowly and the needle withdrawn. The hydrogen ion formation which results from the negative pole causes a collapse of the blood vessels and disappearance of the hemorrhoidal symptoms in a day or two. Treat only one hemorrhoid at a time and you may repeat at three- or four-day intervals.

OPERATIONS

The Whitehead operation which some surgeons prefer is a rather spectacular, and, if successful, a very pretty operation; but we do not like it because there is a very grave danger of getting a total incontinence of feces or a stricture of the rectum.

The operation which we prefer and feel like meets all the pathological and anatomical conditions is the ligature and excision method. With this method we can cope with the various rectal conditions at one operation; often we operate upon one patient for hemorrhoids, infected crypts, perianal abscess and fistula. We do this as a one stage operation thereby saving the patient time, money, and expensive hospitalization.

The patient presenting himself for surgical aid, unless it is an emergency, is instructed to go to the hospital by 6 P.M. He is then put to bed and the parts to be operated upon are shaved He is given a light supper and at 8 P.M. gets a soda enema until there is a clear return. If of a nervous temperament we give him a sedative to insure a good night's rest. Instructions are left that he is not to have any breakfast or fluids in the morning. Three hours before going to the operating room he is given 3 grains of sodium amytal and $\frac{1}{2}$ hour before, morphine sulphate $\frac{1}{4}$ grain, atropine grain 1/150 per hypo and 1 ampule of pitressin. The anesthesia to be used depends upon the physical condition of the patient; if that is normal it is then only a matter of choice whether it is ether, spinal, caudal block or local. I do not think gas anesthesia is a good hemorrhoidal agent because one must secure a deep anesthesia to get a good sphincter relaxation. The veins and mucous membrane become blue and the pathology is obscured. When the sphincter is sufficiently relaxed the rectum is gently dilated by means of the finger and the bi-valve speculum. Skin clamps are attached to the four quadrants of the anal margin and gently pulled out, disclosing internal hemorrhoids, infected crypts and often hypertrophied pillars of Morgagni. A small blunt malleable probe bent at an acute angle will help you to find the deep infected anal crypts often burrowing under the anal skin to a depth varying from $\frac{1}{2}$ to $1\frac{1}{2}$ inches. It is very essential that these are excised because if they are not your patient will be bothered with a sense of weight in the rectum, backache, itching and burning and a potential field for fistulate formation.

If the pillars of Morgagni are hypertrophied, they are cut off and the bleeding stopped by ligature. The hemorrhoids are often three in number, one in each posterior quadrant and one anterior. They are clamped with a curved artery forcep and if complicated by an external hemorrhoid these are excised by means of the curved scissors down to the fascia. The excision is carried inward until the hemorrhoidal and diseased veins shade off into normal structure then a double ligature of O chromic catgut on a curved needle is passed through the tissue and tied anterior and posterior to the forcep to insure complete stasis of blood vessels. The diseased hemorrhoidal tissue is then cut off and the hemorrhoidal stump of normal mucosa is brought down and sutured into their respective fascia from which it was taken. This procedure conserves the mucous membrane, covers up the raw spaces and promotes faster healing. If one finds a spastic sphincter it is well to cut part or all of the fibres, and remember to cut them at right angle to the plane of the sphincter fibres, and near the posterior commissure, otherwise incontinence is very apt to result.

After the operation is completed we use five to ten cc. of nupercain in oil subcutaneously, well distributed and well massaged in to keep from pooling, otherwise it is likely to cause an abscess. A wick of gauze, well lubricated in nupercain ointment is then inserted into the anal canal and remains 24 to 48 hours. This wick serves a three-fold purpose; first, it helps to control capillary bleeding, second it keeps the cut mucosa in place and promotes proper anatomical healing and lastly, the ointment being a good local anesthesia, adds to the comfort of the patient. Cut gauze is then packed snugly between the buttocks against the anus, and a large perineal pad is placed over this and strapped snugly into place with adhesive. This controls external bleeding and adds support to the anus should the patient become nauseated or seized with a spasm of coughing. If the patient has a general anesthetic we allow surgical liquids the first day; if spinal or local he gets full liquids the first day, soft diet the second day and full diet on the third day.

The second postoperative day we give the patient 2 ounces of mineral oil and a dram of cascara and the third day if he hasn't had a b.m. we give 1 ounce of castor oil or some other suitable cathartic and have him to have a daily b.m. thereafter.

We believe the sooner we can establish the regular bowel habit the patient feels better and there is not the likelihood of an impaction of feces forming, which is extremely dangerous to the operative field and also very excruciating to the patient. The third postoperative day the patient is allowed up and he is started into taking hot Sitz baths three to four times a day, and if he lives in the city often allowed to go home and report to the office on the fifth day.

The patient should be taught to keep himself scrupulously clean, taking a hot bath or washing the anus thoroughly after each b.m. and between times to wear a small soft pad of cotton between the buttocks to absorb the irritating seepage that always accompanies rectal operations. Anal examinations, both inside and out should be done at least 3 times a week until complete healing of all cut tissues, thus avoiding resulting fissures, fistulate, abscesses, adhesions and sphincter spasticity. Regardless of the type of hemorrhoid operation a surgeon chooses to use he should always bear in mind four important rules.

1. Be sure to leave enough mucous membrane between each hemorrhoid that is removed and thereby avoid a mucous stricture, which is very difficult to overcome and extremely annoying to the patient.

2. Avoid injury to the sphincter muscle.

3. Remove skin tags and external hemorrhoids by an elliptical incision radial to the anal outlet and preserve enough skin to avoid stricture.

4. To see, observe and examine the anal canal at regular postoperative intervals until the patient has made a complete recovery.

I know of no other kind of patient who is more grateful and appreciative to his doctor than a patient who has suffered for years with a rectal complaint, avoiding operation because it seems to be general lay knowledge that rectal operations are the most painful, and often result in unhappy and unsatisfactory results, and who by sudden unfortunate complications is forced to seek surgery, finds that his convalescence has been painless, his hospitalization short and best of all enjoys a normal defecation, which we all, I hope, have, but never appreciate until we are afflicted with anal complications.

The Mississippi Doctor

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

It is now time for Mississippi to give some special attention to industrial medicine.

We are sure you will enjoy the papers of the Memphis doctors in this special Mid-South issue of the journal.

At any rate, according to Dr. Seale Harris, "corn bread in the liquid form does cause pellagra."

If the people and the medical profession could get together in brotherly co-operation they would not be so likely to hang separately at the hands of state medicine.

More than a dozen specialties are recognized in the medical profession. Specialties are good. They have their place. But with each new addition the field of medicine should be broadened.

If doctors would teach people how to trim their toe nails, and to wear shoes long enough, wide enough and low-heeled enough, much surgery would be prevented, and mental and physical efficiency would be increased.

You will note the picture and description of the Field Memorial Hospital at Centerville, Miss. We are sure that 85 per cent of the medical service needed in that community can be given in this hospital with as good results as may be found anywhere.

Some one has said that men are wearing too many clothes, in weight three times as much as women. But the difference in the way the clothes are made and in difference in men and women should be considered. The women have a layer of fat under the skin that protects them from cold to a large degree.

With the decrease of doctors in the rural sections in the South, the time is not far, unless economical conditions improve decidedly, when the national government will have to furnish financial aid to hospitals and pay the remaining doctors their actual cost on charity cases. The South is furnishing the man power in a large degree for the North and the East, but it seems that we are running short on medical aid and education.

The modern clinician of today keeps up with his patient largely by the chart, regardless of who made it out and when, but the old boys who did and do know their ground, lingered by the bedside, felt the pulse, looked at the patient, talked with the patient, learned of his ancestry and studied him in all his relations to life. It is safer to look at a patient's face than it is his chart.

We appreciate each and every one of our advertisers. Some have come in with us recently whom we have not had before, a few in this issue for the first time. We are grateful to each and every one. We trust that our friends and readers will show them due consideration. We appreciate the cordial good will of every one who carries a courtesy card with us. Besides helping to finance the journal, they give us courage.

We are looking forward to meeting each member of the Past-Presidents Club of the Mid-South at the banquet tendered by our splendid president, Dr. Dunavant. The fellowship in this club is fine and it can be and we think will be a fine asset to the association. We have had a fine attendance at this meeting. Dr. Lawrence Long's fertile brain gave birth to this club. We are grateful to him for it.

In the January issue of the journal, we published a paper on cancer by Dr. John C. Rommel, of Philadelphia, Pa., 4601 N. Broad Street. Of course, we are not vouching for his treatment as a sure cure, but since no one knows definitely its cause and cure, and since this disease causes the death of more than a hundred thousand people a year in this country, we are glad for him to have his say in our journal. The cancer experts can now have their say. They have done and said much already that is very important, but cancer is not yet whipped by any means.

The busy doctors of the Mid-South we believe should appreciate the fine program brought each year through the splendid postgraduate course condensed into four days and nights each February. The publication of these lectures in a journal that may be had for one dollar a year enables every one who is unable to attend to read the lectures. A paper that is worth hearing is worth reading in the journal later. The discussions at the luncheons are very fine. The Mid-South Postgraduate Medical Assembly is a fine democratic association. Memphis is charged with a fine medical atmosphere. The doctors are very friendly and they know how to entertain. One cannot afford to miss the Mid-South.

The exhibitors have played a big part in making the Mid-South what it is. They should always be considered as allies of the medical profession and in turn friends of the people. Biological and surgical supplies are very expensive, but much investment is usually necessary to their production. The exhibitors will always be found on the front lines of progress. We believe that they are actuated by a desire to serve as are the members of the medical profession. Some of them might get out of line as do members of the medical profession, but there should be a sympathetic co-operation between the exhibitors and the profession keeping in mind more efficient service to the people. The exhibitors at the Mid-South can give you much valuable information. Visit their booths and offer them a cordial hand.

We understand that the work of the Woman's Field Army for the Control of Cancer has been endorsed by the American Medical Association and the American College of Surgeons. Our State Medical Association endorsed it last spring and pledged its support. In a large measure the work of this committee is educational, although we have a number of our ablest pathologists on the executive committee. It is right that they should be. They are lending their aid. An able scientific man has his place, but the job of making the people cancer-conscious is big enough for the specialist, the practitioner and the laity. The public is not yet sufficiently informed about cancer. Give women the information and the majority of them will find their way to a diagnosis and to treatment. The Women's Field Army is waging a campaign of education and encouraging clinics for the treatment of cancer.

The cancer toll in 1929 was 111,569 in the United States, in 1938 it was estimated to be 149,214. South Carolina seems to have had the lowest death rate for cancer in 1938 with 54.8 per hundred thousand, while Rhode Island had the highest, with 159 per hundred thousand. Early diagnosis and early operation may not hold the entire answer to cancer control, still there is plenty to do just at this time. While we push down the death rate by early diagnosis and early treatment with operation, x-ray and radium, we might be talking to our clientele about a cancer resistant human stock down the line five hundred to a thousand years from now.

Dr. Charles Dennis Mitchell, for twenty-one years superintendent of the Mississippi State Hospital, an internationally recognized psychiatrist, died in the Jackson Infirmary on Saturday, January 25, at the age of 74. Dr. Mitchell was born in Pontotoc on October 29, 1866, the son of Charles B. Mitchell who served as district attorney and as speaker of the House of Representatives in the Mississippi legislature. He received his literary education in the public schools of Pontotoc and at the University of Mississippi, and his medical degree from the Memphis Medical School in 1888, the same year he married Miss Mamie Herron, of Pontotoc. Mrs. Mitchell died a few months ago. Dr. Mitchell leaves two sons, Dr. Charles B., of Starkville, and T. H. Mitchell, a banker, of Nashville, Tenn , one brother, Gen. George Mitchell, now Federal district attorney, Tupelo; and five sisters.

Dr. C. D. Mitchell held many honors at the hands of his fellow doctors. He served many years on the Mississippi State Board of Health, and a part of the time as its president, was a past-president of the Mississippi State Medical Association and the Southern Psychiatric Association, having been elected to the latter in 1938.

Dr. Mitchell was fitted for his great calling in mind, soul, and heart. He possessed mental and medical integrity, a burning desire and a penetrating vision for service. During his private practice in Pontotoc and his twenty-one years as superintendent of the Mississippi State Hospital his interest grew more intense for the mentally sick. The great seven-million-dollar cottage-plan plant with its 3330 acres will stand for years to come as his great monument. But after these buildings have crumbled, the interest he created in the hearts of the profession and the people for the mentally sick will still be living and producing its results in the form of human life more abundant and more efficient. His love, his kindness, and his sincere interest for the unfortunate sick will live as long as the human river of life flows into the ocean of eternity. Dr. Mitchell was a great student and a scholar, but in his heart power lay his greatest strength. He was one of Mississippi's greatest orators. His logical facts challenged the mind while the warmth of his sincerity moved to action. We feel very sad that he is no more; we are very grateful that he lived.

Dr. Charles D. Mitchell is dead. He died at 4:30 Saturday afternoon the twenty-fifth of January. He was buried at Pontotoc at 10 o'clock Monday morning. He was born and reared in Pontotoc and always regarded that town as his home. However, he had attained such heroic stature that no single town could lay exclusive claim to him. He belonged to the entire state; for there is not a town, village, or rural community within the borders of the state to which he has not rendered scientific and humane service. There are but few people living in Mississippi that do not know of Dr. Mitchell and his great work. This writer had known him long, and intimately. Our friendship, originating in the years of our undergraduate study, grew stronger, purer and more mellow as the years passed by. On the death of Dr. Brister, of Greenwood, some years ago, Dr. Mitchell and I realized that we, too, were the sole surviving members of our graduating class. We never failed to discuss this fact at every meeting since then. It seemed to draw us together more closely. Now, I, alone, am left. But friendship does not end at the grave of those we love, but lingers safe and secure so long as memory lasts. I have spoken of him thus far as my friend. I should be well pleased to say much more along these lines, if it were appropriate. But he was more than simply a friend. He was good and great and brilliant. He was always a student and a dreamer. He reasoned well and thought things through for himself, hence his conclusions were seldom wrong. He measured his words and used them sparingly. Yet he was one of the most eloquent speakers the state has produced. While his was a positive nature, there being nothing negative in his make up, he was gentle, kind and just. In truth he was indeed one of nature's noblemen. When he saw a course was just and right, no undertaking was too large or difficult, and given sufficient time, his efforts were always crowned with success. The institution which he headed for more than twenty years is sufficient proof of this. When he assumed control of that institution it was an emblem of shame. It had for long years been little more than a political football and its inmates victims of extreme inhumanity. It was tolerated as a necessary evil. It was openly talked that the funds were unwisely, if not dishonestly, expended. To be confined in its wards was regarded as a stigma of disgrace and no one was ever expected to return to useful and happy existence. When

Dr. Mitchell was placed in control, his great and humane soul revolted against the entire program. He devoted every thought, energy and ambition of his being to bring about a fitting change. How gloriously he succeeded is read and known of all men. The scheme and institution is unquestionably the child of his brain. He dedicated his life and all his powers, and literaly sacrificed them, that this child might be brought into existence. Thank God, he lived to see this child of his live and breathe. It is a wonderful institution—the greatest in the state. It is true that it cost a great deal of money (and needs that still more shall be spent), but let the people of the state demand and see that it shall not be abused, starved, mismanaged and prostituted. May we feel that Charlie Mitchell's great spirit regards its future and stands over its administration.

* * * *

A very unique and most interesting little book with autographed inscription by the author, has recently come to my desk. It is fresh from the press and was authored by Dr. James T. Nix, of New Orleans. The title of the book is A SURGEON REFLECTS. Dr. Nix is chief of the Nix Clinic and is professor of surgery in the medical department of L. S. U. The book seems to be addressed, primarily, to young doctors, but it is fine reading for doctors of all ages and would be interesting and profitable reading for laymen as well. My copy, even now, is being read by a splendid and most intelligent young mother who has recently been widowed. I am sure she will derive much pleasure and benefit, as well, from its perusal. While it does not emphasize, strictly, medical theories and tenets, it does counsel conservatism and magnifies the importance of a full study and acquaintance of each individual patient. In short, it is a wonderful little book and should be in the hands of every doctor. I deeply appreciate the kindness and thoughtfulness of the author that prompted its presentation to me.

* * * *

Within a few days the Mid-South Postgraduate Assembly will meet in Memphis. In my thinking this is the greatest opportunity for doctors in this territory to get up-to-date postgraduate teaching by men who are recognized authority on the subjects they will discuss. I hope to meet a large number of the readers of this journal there and then.

—G. S. B.

PRESIDENT OF THE MID-SOUTH POST-GRADUATE MEDICAL ASSEMBLY

Dr. James Lynn Dunavant, of Ripley, Tennessee, president-elect of the Mid-South Postgraduate Medical Assembly. He is the son of Dr. and Mrs. O. R. Dunavant. Received his early training in the public and high schools of his county. Graduated in medicine in 1918 after first taking two years of college work. He immediately became affiliated with organized medicine and has been active in its promotion during his entire professional life. He has served his local society in almost every official capacity and his state society as vice-president. He takes a very active interest in civic and church affairs, is a member of the Methodist Church and is a Mason. He is a great lover of golf and football for pastime. Dr. Dunavant really loves the practice of medicine as a professional man and loves to do good to his profession and to all people. He may be fully depended upon to make a fine president of the Mid-South Postgraduate Medical Assembly.

DR. C. M. SPECK
Whitfield, Miss.

Dr. C. M. Speck of Whitfield who has just been appointed by Governor Paul Johnson to succeed Dr. C. D. Mitchell who died last Saturday, Jan. 25, 1941, after serving as head of the hospital for twenty-one years.

Dr. Speck is a native of Union County, born in 1887. He graduated in medicine from Vanderbilt University in 1912. He served in the Medical Corps of the United States Army from 1917 to 1919 as a captain. He organized the New Albany Hospital in 1928 and was in active practice there as a physician and general surgeon until his recent appointment as assistant superintendent at Whitfield.

Dr. Speck has taken postgradutae work at Tulane, University of Illinois, Polyclinic Hospital of New York and at Mayo Clinic.

He is a fellow in the American College of Surgeons, a former president of the North Mississippi Medical Society, a former vice-president of the State Medical Association and is president-elect of the Mid-South Postgraduate Medical Assembly.

Dr: Speck succeeds one of the ablest men in the South in handling the mentally sick. He is ably endowed in mental ability, has had broad experience in general practice, and he will meet the challenge with his best efforts with a forward move.

DR. J. C. CULLY
Oxford, Miss.

Dr. J. C. Cully, Vice-President of the Mid-South Postgraduate Medical Assembly from Mississippi. He is an outstanding surgeon of the state, a past-president of the Mississippi State Medical Association, a fellow in the American College of Surgeons, and president-elect of the Mississippi Hospital Association. For many years he has been active in organized medicine.

THOMAS F. HUDSON
Luxora, Ark.

Dr. Hudson, the vice-president from Arkansas, is a native of Tennessee. He was born on a farm near Middleton, in Hardeman County, in 1882, and after finishing high school taught school two years before he was able to enter medical school. In 1907 he was graduated from the University of Tennessee, served his internship in the Memphis General Hospital, and went to Luxora, Arkansas, to begin practice. Except for postgraduate study at Tulane University, he has spent the past thirty years in general practice in Luxora.

Like many other doctors, Dr. Hudson finds relaxation in absentee farming, finding the possession of farm lands sufficiently demanding to take the place of hobbies or other interests outside his profession.

Dr. Hudson has been president of the Mississippi County Medical Society, is a member of his state medical society, a fellow of the American Medical Association, and has been an active member of the Southern Medical and Mid-South for almost all of his medical career.

Resolute, yet conservative and dependable in his views, he is worthy of every trust placed in him. His own vision of service is an inspiration to those who touch shoulders with him.

ROY M. LANIER
Brownsville, Tenn.

Dr. Lanier, the young vice-president from Tennessee, was born near Brownsville, Tenn., in 1905. He returned to his native heath to enter general practice and surgery in 1933, after obtaining his M.D. from University of Tennessee, serving an internship at City Hospital, Memphis, spending half a year as resident surgeon at Welch Emergency Hospital, Welch, West Virginia, and the other half at Long Island Hospital, Brooklyn, N. Y., finishing up with a postgraduate course in public health at Vanderbilt University.

He is chief of staff of Haywood County Memorial Hospital, has been secretary of his county society since 1933, and is a member of the Tennessee State Medical Association and the A. M. A. He believes in a doctor taking time out to practice citizenship also.

He holds active membership in the Rotary Club and Junior Chamber of Commerce. For recreation he loves the hunt. His interest in bird dogs gave him the chairmanship of the American Field Futurity run at Brownsville the past two years.

DR. A. F. COOPER
Memphis, Tenn.

Dr. A. F. Cooper, secretary-treasurer of the Mid-South Postgraduate Medical Assembly, has been very active in organized medicine all his professional life. Dr. Cooper is a Ph.D. in the technique of secretaryship. He has a special knack of seeing and attending to every detail that might contribute to the success of the meeting.

DR. GILBERT J. LEVY
Memphis, Tenn.

Dr. Gilbert Levy has rendered a wonderful service for the Mid-South Postgraduate Medical Assembly. During the last twelve or fifteen years he has had charge of the exhibits, looking after space and securing exhibitors throughout the nation. No man in the South is better suited to this than Dr. Levy. He is a fine diplomat in handling the people. The exhibitors have been very largely responsible for the big success of the Mid-South, having furnished largely the finances of the association. Every doctor in this wonderful medical assembly should feel very grateful to Dr. Gilbert Levy for the fine part he has played.

DR. H. T. SMITH
McGehee, Ark.

Dr. Smith was born in Cincinnati, Ark. After preparatory education he went to Memphis Hospital Medical College for his M.D., which he received in 1910. His internship he served at St. Joseph Hospital in Memphis, and then entered practice in McGehee, Ark. During the years of his practice he has taken postgraduate work at Johns Hopkins, Tulane University and Chicago University. He was granted a fellowship in the American College of Physicians in 1929.

Although Dr. Smith confines his work to internal medicine, he is an alert thinker and devotes much time to organized medicine. He has been especially awake to the profession's present status as related to socialized medicine. When Arkansas physicians elevated him to the presidency of the state society, they chose a man advanced in thought and definitely endowed with the requirements for leadership.

DR. L. W. EDWARDS
Nashville, Tenn.

Dr. L. W. Edwards was born in Carroll County, Tennessee, October 17, 1888. In his early days he lived on a farm, attending the district school of his county until the age of eighteen, when he entered Southern Normal University at Huntingdon, Tennessee, and remained at this institution during the years of 1906-1908.

After deciding to study medicine, he entered the Vanderbilt Medical School at Nashville, Tennessee, in 1908 and graduated with honors in June, 1912.

Immediately after graduation he became associated with Dr. Duncan Eve, Sr., and Dr. Duncan Eve, Jr., in the practice of general surgery. He continued this association until 1915, when he opened an office of his own and began the practice of surgery alone. In 1938, he and Dr. Duncan Eve, Jr., again became associated in the practice of surgery.

At the present time he holds the position of associate professor of clinical surgery at Vanderbilt, and is a member of the attending staff of the Vanderbilt Hospital, St. Thomas Hospital, and the Nashville General Hospital.

He is a member of the Nashville Academy of Medicine and Davidson County Medical Society (past president), the Tennessee State Medical Association, the American Medical Association, the Southern Medical Association, and a fellow of the American College of Surgeons. He was for several years a member of the House of Delegates and also as counselor, and for the past eight years has served as chairman of the Association's Legislative Committee.

Dr. Edwards' unselfishness, sterling character, tenacity of purpose, when convinced he is right, and his fairness both to colleagues and the public, have endeared him to those who have had the opportunity of really knowing him, and it is the knowledge of the existence of these traits of character that makes one prophesy for him success in his executive capacity during the coming year and to realize even more how fortunate the Tennessee State Medical Society is during these troublesome times to have such a person as its leader.
—Tennessee Medical Journal.

THE FOLLOWING essayists will address the fifty-sixth session of the Mid-South Post-graduate Medical Assembly. Make your plans to hear as many of these men as possible, not forgetting the luncheon hours.

DR. EDWIN N. BROYLES
Baltimore, Md.

Otolaryngologist. Born in Atlanta, Ga., B.S. University of Ga., 1915; M.D., Johns Hopkins University, 1919. Interned at Johns Hopkins Hospital and has been connected with the department of otolaryngology since graduation. Assistant in laryngology at Johns Hopkins University Medical School and assistant visiting otolaryngologist to the Johns Hopkins Hospital.

Time: February 11, 10:00 A.M.

Subject: "Diagnosis and Treatment of Acute and Chronic Sinus Infections."

DR. BUFORD G. HAMILTON
Kansas City, Mo.

Obstetrician. Associate clinical professor obstetrics and gynecology Univ. of Kansas; diplomate American Board Obstetricians and Gynecologists; attending obstetrician University of Kansas, St. Luke's Hospital and Menorah Hospital; chief obstetrician K. C. General Hospital and St. Joseph Hospital; member American Obstetricians and Gynecologists, Central Association Abstetrician and Gynecologists: Vice-Pres. A. M. A. section.

Time: February 11, 11:00 A.M.

Subject: "Fundamentals That Must Be Observed in Labor."

DR. CLAUDE C. CODY, JR.

Houston, Texas

Otolaryngologist. A.M., M.D., D.Sc., and Fellow of American College of Surgeons.

Time: February 11, 2:00 P.M.

Subject: "Treatment of Acute Otitis Media in Children."

DR. PAUL R. CANNON

Chicago, Ill.

Pathologist. A.B., James Millikan University; Ph. D. University of Chicago; M.D. Rush Medical College. Chairman of the department of pathology, University of Chicago, where he has been associated the past 15 years. Member of Council of American Association of Pathologists and Bacteriologists, the American Society for Experimental Pathology, and American Association of Immunologists. Chairman of Medical Section of American Association for the Advancement of Science. Professional work has been mainly in the field of experimental pathology dealing with pathological aspects of infectious diseases, experimental malaria, allergy, and infectious diseases of the respiratory tract.

Time: February 11, 3:00 P.M.

Subject: "Lipid Pneumonia and the Problem of Intranasal Medication."

DR. HENRY P. WAGENER

Rochester, Minn.

Ophthalmologist. B.S., M.D., M.S. in ophthalmology, was born June 3, 1890, at Charleston, S. C. He received the degree of B.S. in 1909 from Charleston College, of M.D. in 1913 from the Medical College of South Carolina, and of M.S. in ophthalmology in 1923 from the University of Minnesota. He is associate in ophthalmology, The Mayo Clinic, and associate professor in ophthalmology, The Mayo Foundation, University of Minnesota Graduate School.

Time: February 11, 4:00 P.M.

Subject: "The Diagnostic and Prognostic Significance of Retinal Lesions in Glomerulonephritis."

MAJOR GENERAL JAMES C. MAGEE

Surgeon General, U. S. Army, Washington

Jefferson Medical College, M.D., 1905; entered military service from Pennsylvania then served in Philippine Islands, on Mexican Border, with American Expeditionary Forces in France, 1917-1919. Decorated Purple Heart. Member, Board of Visitors, Saint Elizabeth's Hospital, Washington, D. C.; director, Columbia Hospital for Women; member Central Committee, American Red Cross; member Federal Board of Hospitalization; honorary fellow, American College of Surgeons; fellow American College of Physicians; member American Medical Association, Association of Military Surgeons, National Anti-Syphilis Committee of American Social Hygiene Ass'n., American Foundation for Tropical Medicine Board Directors; honorary fellow, American Ass'n. for Surgery of Trauma; Sc.D., Jefferson Medical College, 1940.

Time: February 11, 8:00 P.M.

Subject: "Medical Preparation for the Present Emergency."

DR. E. L. ELIASON

Philadelphia, Penn.

Surgeon. Born June 6, 1879, Charleston, Md., Yale, A.B. 1901; Univ. of Pa., M.D. 1905; Wash. Coll., Sc.D. 1924. Assoc. in Surg. U. of Pa., 1919-23, asst. prof. surg. 1923, later John Rhea Barton Prof. Surg; now Prof. Clin. Surg. Pennsylvania Grad. Sch. Surgeon, Presbyterian Hosp. Asst. Surgeon; University Hosp., 1908-23; Howard Hosp.

1908-20. Surgeon, Howard Hosp., since 1921. Asst. Surgeon, Phila. Gen. Hosp., since 1914. Surgeon, U. of Pa. Hosp., since 1922. Consulting Surgeon, Lebanon Sanitarium and Burlington Co. Hosps. Mem.: Pa. State Med Soc.; A. M. A.; Phila. Co. Med. Soc.; Phila. Acad. of Surg. Served as Lt. Col. U. S. Army M. C. Author: "Practical Bandaging"; "First Aid in Emergencies"; "Fractures of the Humerus, Radius and Ulna."

Time: February 11, 9:00 P.M.

Subject: "Surgical Aspects of Gastrointestinal Hemorrhage."

DR. ROBERT A. KIMBROUGH, JR.

Philadelphia, Pa.

Gynecologist and obstetrician. Dr. Kimbrough was born in Jackson, Tennessee; B.A., Mississippi College; two years Medicine University of Mississippi; M.D. University of Pennsylvania. Associated with dept. of obstetrics and gynecology at University of Pennsylvania fifteen years; assistant professor of obstetrics and gynecology at Univ. of Pennsylvania, chief of service in obstetrics and gynecology at Pennsylvania Hospital in Philadelphia. Contributor to current med. literature in gynecology and obstetrics.

Time: February 12, 9:00 A.M.

Subject: "Antepartum Hemorrhage."

DR. WILLIAM D. STROUD

Philadelphia, Pa.

Cardiologist to the Pennsylvania Hospital. B.S. University of Pennsylvania, M.D., University of Pennsylvania. Interneship was served at the Children's Hospital of Philadelphia and the Pennsylvania Hospital. Was commissioned Lieutenant in Medical Corps of U. S. Army in 1917. Received honorable discharge from the Army with the rank of captain in the medical corps. Dr. Stroud has done special work in cardiovascular diseases in the laboratory of the University Hospital, London, England, with Sir Thomas Lewis; worked two months in Scotland at the St. Andrew's Institute of Clinical Research with Sir James Mackenzie, and in Paris at the L'Hospital de Pitiet with Dr. Vaquez. In June, 1920, he was appointed physician to the Pennsylvania Hospital and chief of the Heart Clinic. Has served as physician-in-charge of Children's Heart Hospital of Philadelphia since it was founded in 1922. Dr. Stroud is president of the American Heart Association; chairman of the Cardiac Clinics Committee, fellow of the American College of Physicians, fellow of the American Medical Association, and other medical associations. He has written many articles on the different phases of heart disease.

Time: February 12, 10:00 A.M.

Subject: "Digitalis, Its Indications and Best Method of Administration."

DR. FRANCIS D. MURPHY

Milwaukee, Wis.

Dr. Murphy was born in New Diggins, Wis. Received his B.S. and M.D. degrees from Marquette University of Milwaukee; M.S., Univ. of Pa. He has been clinical director of Milwaukee County Hospital since 1924; professor of medicine and head of the dept. of medicine at Marquette University since 1928; chief of staff, St. Joseph's Hospital. Specializes in internal medicine. He was awarded a certificate of honor by A. M. A. in 1933 for special work on Bright's disease. Member: F.A.C.P., Central Society for Clinical Research, Am. Therapeutic and Amer. Heart Ass'n., and other societies. In addition to his BEDSIDE CLINICS he has written many articles for medical journals.

Time: February 12, 11:00 A.M.

Subject: "A Study of Acute Nephritis—the Early Phases and the Findings Ten Years Later."

DR. MILTON FRIEDMAN
New York City

Radiologist. Born in Newark, N. J. M.D. George Washington University School, 1926. Interne at Newark City Hospital and resident physician at the radiation therapy dept. of Bellevue Hospital, New York City, for one year. Instructor in radiology and otorhinolaryngological oncology at N. Y. University Medical School for past four years. Attending radiologist at Sydenham Hospital; adjunct roentgenologist in charge of radiotherapy at Hospital for Joint Diseases, N. Y. City; consultant director of the Cancer Service at Newark City Hospital. Assistant editor of the BULLETIN of the Hospital for Joint Diseases, diplomate of the American Board of Radiology. His hobby is sculpturing and he has exhibited several times before the Physicians Art Club.

Time: February 12, 2:00 P.M.

Subject: "The Treatment of Endocrine Disorders with Roentgen Rays."

DR. RICHARD B. CATTELL
Boston, Mass.

Surgeon. Born in Martin's Ferry, Ohio; A.B. degree, Mt. Union College, Alliance, Ohio; M.D., Harvard University Medical School, 1925; private in the regular Army Medical Corps, A. E. F., 1917-19. Surgeon to the Lahey Clinic, New England Baptist and New England Deaconess hospitals.

Time: February 12, 3:00 P.M.

Subject: "The Management of Ulcerative Colitis."

DR. ELMER L. SEVRINGHAUS
Madison, Wis.

Endocrinologist. Born in New Albany, Ind. B.A. degree Univ. of Wisconsin, 1916 and M.A. in 1918; M.D., Harvard Medical College. Asst. professor of physiological chemistry for six years and professor of medicine at Univ. of Wisconsin for past three years. President of the American Association for the Study of Internal Secretions. Two monographs on endocrine therapy in general practice and vitamin therapy in general practice; editor Section on Endocrinology in the YEAR BOOK series.

Time: February 12, 4:00 P.M.

Subject: "Obesity Types and Treatment."

DR. BRET RATNER
New York City

Pediatrician. Born in Brooklyn, N. Y. M.D., University and Bellevue Medical College; postgraduate work in pathology at City Hospital; special work at Cornell Medical College and New York Nursery and Child's Hospital. Clinical professor of pediatrics N. Y. University College of Medicine; associate attending physician pediatrics division, Bellevue Hospital; consulting pediatrician, French Hospital; licentiate in pediatrics, F.A.A.P., member of American Society for Experimental Pathology, Harvey Society, American Society for the Study of Allergy, New York Academy of Medicine and other scientific organizations. His hobby is chamber music (cellist).

Time: February 13, 9:00 A.M.

Subject: "The Asthmatic Child."

DR. EDWIN CROWELL HAMBLEN
Durham, N. C.

Obstetrician and gynecologist. Born in Greenville, Miss., B.S. Univ. of Virginia; M.D., 1928. Assistant and instructor in biochemistry and pharmacology, Baylor Univ., College of Medicine; assistant in surgery and gynecology, Gamble Brothers and Montgomery Clinic, Greenville, Miss., 1929-30. Clinical instructor and assistant in obstetrics and gynecology and asst. obstetrician and gynecologist University of Va. Hospital 1930-31; associate professor of obstetrics and gynecology, Duke University School of Medicine 1931, to present. Chief of endocrine division and endocrinologist, Duke Univ. Hospital. Member: F.A.C.S.; A.A.A.; diplomate of American Board of Obstetrics and Gynecologists; Southern Medical; Pan-American Medical, and many other organizations. His hobbies are gardening and photography.

Time: February 13, 10:00 A.M.

Subject: "The Diagnosis and Treatment of Ovarian Failure During the Reproductive Period."

DR. D. B. PHEMISTER
Chicago, Ill.

Surgeon. Born Carbondale, Ill., July 15, 1882. Rush Medical College, 1904. Practiced in Chicago since 1904; professor and chairman department surgery, University of Chicago School of Medicine, since 1926. Captain and Major M. C., Overseas Service, 1917-19. Fellow American College of Surgeons, American Surgeon Association (past president); member A. M. A., Ill. State and Chicago Medical Societies, Chicago Pathological Society, Interurban Surgeon Club.

Time: February 13, 11:00 A.M.

Subject: "Conservative Surgery in the Treatment of Sarcoma."

DR. FREMONT A. CHANDLER
Chicago, Ill.

Orthopedist. M.D., Columbia Univ. College of P. and S., 1919. Associate professor of orthopedic surgery, Northwestern University Medical School, Chicago, Ill. Senior attending orthopedic surgeon, St. Luke's Hospital, Chicago; attending orthopedic surgeon, Children's Memorial Hospital, Chicago; member of the American Orthopedic Association; president of the Clinical Orthopedic Society; member of the Board and Secretary of the American Board of Orthopedic Surgery.

Time: February 13, 2:00 P.M.

Subject: "Orthopedic Treatment of Spastic Paralysis."

DR. M. A. BLANKENHORN
Cincinnati, Ohio

Internal medicine. Professor of Medicine, University of Cincinnati. Ph.B. College of Wooster; M.D. Western Reserve University, 1914; M.A., 1920. Sr. instructor of medicine 1919-23; asst. professor Western Reserve U.; visiting physician Lakeside Hospital; director medical service, Cincinnati General Hospital; member: A. M. A.; Ass'n. of American Physicians; American Society for Clinical Research; Captain M.C.; A.E.F., during World War.

Time: February 13, 3:00 P.M.

Subject: "Nutritional Disorders of the Nervous System."

DR. WALLACE M. YATER
Washington, D. C.

Surgeon. B. A., George Washington University, Washington, D. C., M.D. Georgetown University, Washington, 1921. Interned at Garfield Memorial Hospital and Georgetown University Hospital. Instructor of applied anatomy and professor of physical diagnosis for three years. Fellow in medicine at Mayo Foundation, three years; received degree of Master of Science in medicine from the Univ. of Minnesota in 1928. In 1931 he became professor and head of the Department of Medicine of Georgetown University School of Medicine, Washington, which position he now holds. He is also physician-in-chief of Georgetown University Hospital and the Gallinger Municipal Hospital.

Time: February 13, 4:00 P.M.

Subject: "Surgery of the Heart and the Heart in Surgery."

DR. LEON HERMAN
Philadelphia, Pa.

Urologist. Born in Lancaster County, Pa., B.S., Franklin Marshall College; M.D. Univ. of Penn. Medical School; urologist to U. S. Navy Base Hospital, No. 5, Brest, France, during World War; chief of the urological department of the Pennsylvania and Bryn Mawr hospitals, and urologist to other hospitals; prof. of urology, Graduate School, Univ. of Pennsylvania.

Time: February 14, 9:00 A.M.

Subject: "The Physiological and Clinical Significance of Renal Symptoms."

DR. FREDERIC W. SCHLUTZ
Chicago, Ill.

Pediatrician. Professor and chief of the department of pediatrics, University of Chicago, Chicago, Ill. Graduate work in pediatrics taken at the University of Berlin, Strassburg, Kiel, Paris and London; also graduate work in biochemistry at the University of Minnesota and Harvard University. Formerly professor and chief of the department of pediatrics, at the University of Minnesota before coming to Chicago. Active or honorary member of a number of pediatric societies, both in this country and abroad and in Latin America.

Time: February 14, 10:00 A.M.

Subject: "Vitamin A and B Deficiencies and Methods for their Detection."

DR. JAMES G. CARR
Chicago, Ill.

Cardiologist. B.A., Ohio State University; M.D., Northwestern University Medical School, 1902. Interned Cook County Hospital; professor of medicine Northwestern Medical School; director of Florsheim Foundation for Cardiac Research. Spent 15 years on the staff at the Cook County Hospital and 10 years as chief of the medical service at Evanston Hospital.

Time: February 14, 11:00 A.M.

Subject: "Cardiac Disease in Acute Infections."

DR. RUSSELL L. HADEN
Cleveland, Ohio

Medical Educator. Born in Palmyra, Va., May 22, 1888; A.B., Univ. of Va., 1910, A.M., 1911; M.D., Johns Hopkins, 1915; Resident house officer, Johns Hopkins Hosp. 1915-16; asst. resident physician, Henry Ford Hosp., Detroit, Mich. 1916-17; assoc. prof. medicine, Univ. of Kan. 1921-23; head of dept. of medicine, Cleveland Clinic since 1930; first lt. Med. Corps, U. S. A., asst. chief med. service, base Hosp. Camp Lee, Va., 1918-19. Member: A. M. A., Climatol. Ass'n., Ass'n. Am. Physicians. Dr. Haden was awarded a gold medal by Radiological Society of America for contributions to dental roentgenology in 1929.

Time: February 14, 2:00 P.M.

Subject: "The Use of Liver and Iron in the Treatment of Anemia."

DR. VERNE C. HUNT
Los Angeles, Calif.

Surgeon. Born in La Porte City, Iowa. Degrees: B.S., 1911 State University of Iowa, M.D., 1913, Rush Medical College, M.S., in Surgery, 1918, University of Minnesota. Member: F. A. C. S., American Surgical Ass'n., Western Surgical Ass'n., Pacific Coast Surgical Ass'n., American Urologic Ass'n., Certified by American Board of Surgery.

Time: February 14, 3:00 P.M.

Subject: "Surgical Considerations of Obstructive Jaundice."

News and Comments

Dr. C. C. Risher, Jr., died in the hospital at Laurel, January 11. Funeral services were held in Heidelberg. He is survived by his brother, Dr. P. C. Risher, of Laurel.

Dr. Van C. Binns, E.E.N. and T. specialist of Pine Bluff, Ark., has been called for a year's military service with the U. S. Army and is now stationed at Fort Bliss, Texas, with the rank of captain in the 16th Quartermaster Squadron.

The January meeting of the Fifth Councilor District of the Arkansas Medical Society was held at the Garrett Hotel in El Dorado, Ark., on January 10. Dr. John H. Wilson, of Magnolia, was elected president; Dr. A. D. Cathey, El Dorado, vice-president, and Dr. R. B. Robbins, Camden, secretary. At this meeting the wives were entertained.

Dr. Stanley Adkins Ferrell died suddenly at his home in Madison, Ark., Jan. 13, following a heart attack. He was 59. Dr. Ferrell was born in Love, Miss., on March 9, 1881. He had practiced medicine in Arkansas for more than 30 years until he retired about eight years ago on account of ill health. He is survived by his wife, his mother, one sister, five grandsons, two granddaughters and one great granddaughter.

MISSISSIPPI DOCTORS AT SHELBY

The following Mississippi doctors are on duty at Camp Shelby, Mississippi. They were called early in November and helped to organize the 2000-bed capacity Station Hospital which serves the soldiers of the Thirty-Seventh and Thirty-Eighth Divisions now in training at Camp Shelby.

Dr. J. E. Windham is a graduate of University of Mississippi, 1926, and Jefferson Medical College, Philadelphia, Pennsylvania, 1933. Dr. Windham, or Lieutenant Windham as he is known at the hospital, was in private practice in Kosciusko, Mississippi, until he was called to active duty. He was born at Vaiden, Mississippi. Dr. Windham has charge of the x-ray department and has about all of the work he can take care of now that the Thirty-Eighth Division has arrived at Camp. He will spend the month of February at the Army-Navy General Hospital in Hot Springs, Arkansas, taking a special course in x-ray diagnosis.

Dr. R. C. Massengill, of Brookhaven, Mississippi, was graduated from the University of Mississippi in 1930 and Tulane Medical School in 1932. He practiced medicine in Brookhaven where he was born from 1935 until being called into service of the U. S. Army. Dr. Massengill has been in charge of the medical supplies and equipment for the hospital and is responsible for a great deal of the progress the hospital has made in getting ready to take care of the sick and wounded.

Dr. C. D. Pritchard, of Marks, Mississippi, is the third of this trio of young Mississippi doctors who are serving their country at Shelby. He was graduated from Ole Miss in 1933 and the University of Tennessee Medical School in 1935. Dr. Pritchard had practiced at Marks, Mississippi, since 1937. After reporting for duty at Shelby he was assigned to the G. U. service and had charge of the treatment of all genitourinary diseases. Recently he was transferred to another service in accordance with the training program outlined by the Surgeon General's office in Washington for the training of the doctors called to duty.

Drs. Massengill and Pritchard will probably both be sent to one of the government's general hospitals for special training later in the spring.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The growth of the New Orleans Graduate Medical Assembly has been truly spectacular. Starting in a small way four years ago it has increased its attendance by leaps and bounds and it has apparently appealed to a very large number of men, not only throughout the South but also from the North and Midwest. This is a very practical demonstration that the medical man is anxious and eager to keep up with the advances of medicine and to review the latest and most outstanding features in his professional field.

The meeting which will be held March 3-7, 1941, should be the largest one that has ever been conducted. This is said advisedly because the list of guest speakers is outstanding and the character of the presentations that these speakers will make is guaranteed by their professional reputation. It would be impossible to enumerate here the names of the eighteen outstanding essayists. Men like Paul D. White, Paul A. O'Leary, Owen H. Wangensteen, Ernest E. Irons, Maurice C. Pincoffs, Charles F. McKhann and Cecil S. O'Brien are known not only locally but nationally. Only a few of the great speakers have been mentioned but the others are equally well known and prominent in medical circles.

The thinking medical man will realize and appreciate that this medical assembly will give him an excellent opportunity to find out about the advances in medicine and surgery; it will give the hard working professional man an opportunity to relax from the daily grind and it will give the doctor whose contact with other members of his profession is limited an opportunity of talking over his problems with his fellow practitioner and with men who are known as teachers and scientists.

The registration fee of $10.00 includes not only the lecture and clinics in the hospitals of New Orleans on March 7, but also the roundtable luncheons, the smoker, the exhibits and many other features.

COMING MEDICAL MEETINGS

Mid-South Postgraduate Medical Assembly, Memphis, February 11-14.

Mississippi State Medical Association, Biloxi, May 13, 14, 15.

Tennessee State Medical Association, Nashville, April 8, 9, 10.

Arkansas State Medical Society, Little Rock, April 14, 15, 16.

American Medical Association, Cleveland, June 2-6.

Southern Medical Association, Louisville, Ky., November 12-15.

Southern Surgical Association, Hot Springs, Va., December 10-12.

American Public Health Association, October 14-17.

DR. HUNTER L. SCALES, JR.

Starkville, Miss.

President of the Northeast Mississippi Thirteen Counties Society. He is a native of Starkville, graduated from Mississippi State College in 1932, with B. S. degree, and in medicine from Vanderbilt University in 1936. After two years' internship in Vanderbilt University Hospital, Nashville, Willard Parker Hospital, New York City, and University of Iowa Hospital, Iowa City, Iowa, he began his practice with his father at Starkville.

While in school he belonged to the following fraternities: Sigma Chi, social fraternity; Phi Chi, medical fraternity; Alpha Epsilon, premedical fraternity. In 1940, he served as president of the Junior Chamber of Commerce and he is a member of the Boy Scout Committee.

Dr. Scales was married to Miss Mary Hearon, of Starkville, in 1939, and to this union one daughter, Virginia Lee, has been born.

Dr. Scales and his father, Hunter L., Sr., have one of the very best equipped diagnostic clinics in North Mississippi.

It is refreshing and encouraging to see a young man so well equipped as Dr. Scales come back to his home town to practice. He will prove to be an active and an able president of our district society.

DR. S. E. MITCHELL

MALDEN, MO.

Dr. Mitchell is just a plain doctor in citizen's clothes, but he is a good one. He is faithful, true and tried. We feel sure he is one of the most faithful attendants of the Mid-South to be found in any state. In fact, he has not missed a meeting of the Mid-South since it has had is present name. He has the mental capacity to take in what is said and the practical application to serve it to his people. He possesses medical integrity and dependability in citizenship.

Dr. Mitchell is a native of Ohio, born in 1872 at Ironton. In 1888 he was licensed to teach school and taught near Covington, Kentucky, for ten years. From here he went to the Indian Territory and taught and worked in a drug store for several years. In 1901, he was married to Miss Sallie E. Cook, of Oconee, Ill. He graduated in medicine from St. Louis University in 1906 and soon afterwards began practicing in Malden, Mo., where he has been ever since. He has been a subscriber to THE MISSISSIPPI DOCTOR for many years. "I never fail to read a copy; my wife thinks the best and most practcal articles are to be found in it." Dr. Mitchell is sixty-nine in years, in activity mentally and physically, about fifty. The blood of true friendship and brotherly interest flows in his veins and he takes delight in building a healthier and a better human race.

NOTICE

The attention of the medical profession in Mississippi is called to the meeting of Region 11 of the American Academy of Pediatrics in Richmond, Virginia, on April 24 and 25. I am sure that many of our physicians remember the very fine meeting of this region last year, which was held at the Edgewater Gulf Hotel, Edgewater Park, Mississippi, on March 15 and 16.

These meetings are of especial interest to practitioners of medicine of all kinds, since the invitation is open to all of them. I hope that a number of our physicians may avail themselves of this opportunity of attending this meeting.

—HARVEY F. GARRISON.

THE QUININE INDUSTRY

Since the invasion of Holland on May 10, there have been persistent rumors of Nazi attempts to interfere with the Dutch quinine industry. The actual facts appear to warrant the following statement.

Heretofore Amsterdam has been the headquarters of an industry which has assured the supply of this world-wide remedy for malaria. By royal decree the management of this quinine industry was transferred to Bandoeng, Java, on May 14, 1940.

We have been warned, although the warning was scarcely necessary, to have no communication with our former associates in Amsterdam for fear such correspondence might be diverted to Nazi ends.

Java is now the center of the world's quinine industry, where ample production is assured of both cinchona bark and manufactured quinine. The latter is produced at the Bandoengsche Kininefabriek, the largest quinine factory in existence. There is thus no danger of a quinine shortage anywhere in the world.

The quinine industry, now centralized in the Netherlands East Indies, is completely Dutch and completely determined that Holland's plight shall not be turned to Nazi advantage. That attitude also actuates those connected either with the sale of Dutch quinine here or with the research and educational program of that industry.

(Reprinted from SCIENCE, December 20, 1940, Vol. 92, No. 2399, pages 579-580).

RESEARCH MEDAL

At the annual meeting of the Southern Medical Association in 1912 provision was made for a medal to be awarded from time to time to "one of its members for meritorious and original research work, provided the member has made contributions to medical science of sufficient importance to merit this distinction."

Research medal awards have been made to the following:

In 1912 to Dr. C. C. Bass, New Orleans, La.

In 1916 to Dr. J. Shelton Horsley, Richmond, Va.

In 1921 to Dr. Kenneth M. Lynch, then of Dallas, Texas, now of Charleston, S. C.

In 1932 to Dr. Evarts A. Graham, St. Louis, Mo.

In 1933 to Dr. William deB. MacNider, Chapel Hill, N. C.

In 1937 to Dr. Ernest W. Goodpasture, Nashville, Tenn.

In 1940 to Dr. Alfred Blalock, Nashville, Tenn.

DRUG FOUND TO SUBSTITUTE FOR QUININE

American science is said today to have made this country independent of foreign sources of quinine.

Faced with the threat of war imposing a blockade on importations of quinine, chiefly from the Dutch East Indies, intensive tests have been made on the use of atabrine, a synthetic anti-malaria drug.

The tests indicate, according to a report by Dr. H. C. Clark, director of the Gorgas Memorial Laboratory, Panama, and Dr. William H. W. Komp, United States public health service engineer, Ancon, Panama, that the synthetic drug is just as effective as quinine in stopping the chills and fever of malaria and helping to rid the body of the bacteria which cause it.

"We consider quinine and atabrine of equal therapeutic value," they said in a report to the American Association for the Advancement of Science on results of a series of tests on natives of Panama, near the eastern boundary of the Canal Zone.

The people were split into three groups—those receiving atabrine, those given quinine and a control group given quinine only if they asked for it. Atabrine proved just as effective as quinine in reducing the infection rate from 45 per cent to about 7 per cent in the two treated groups, they declared. "Good results were obtained from the viewpoint of increased labor efficiency and clinical cures."

(This clipping from Indianapolis, Ind., News, of January 1, 1941.)

TO ATTEND PAST-PRESIDENTS CLUB

Dr. Jere Lawrence Crook, Jackson, Tenn a native of Henderson, graduate of Union University, M.A. in 1892, M.D. from Vanderbilt in 1894. He is founder of the Crook Sanatorium and now president of it. He is vice-president of the JACKSON DAILY SUN, director Second National Bank, Jackson, Tenn., past-president of Jackson Rotary Club. He is a past-president of his state medical association, the Tri-States and the Southern (chairman of the committee that wrote the constitution). He is a fellow in the A. M. A. and the American College of Surgeons. He served in the first World War as captain. He is a Democrat and a Baptist. He is or has been president of about all the medical or civic organizations of which he became a member. He is outstanding as a surgeon in the South and he never shirks his duty as a citizen. He is known everywhere as Dr. Jere. His discussions on medical subjects are always able; as a statesman he is an outstanding leader; and in the field of oratory one needs only to hear him as an after dinner speaker and be convinced.

Dr. Crook is taking a keen interest in the Past-Presidents Club of the Mid-South, which he plans to attend at its next meeting.

THE FIELD MEMORIAL HOSPITAL CENTREVILLE, MISS.

The Field Memorial Hospital was erected and formally opened on February 28, 1928.

The hospital is centrally located and convenient to serve a good community of some twenty to thirty thousand people.

Since opening the Field Memorial has been accepted and fully approved by the American College of Surgeons, and the American Medical Association.

The organization is a partnership, and operated by Drs. R. J. and S. E. Field, who are both Fellows of the American College of Surgeons.

Within the community there are eighteen doctors who hold a most enviable position in their respective practices, and are grouped solidly in our great state and national medical fraternities. Each one is a member of the courtesy staff of the Field Memorial, and has been most loyal.

A monthly meeting of the staff in conjunction with the nearby county societies is held the second Thursday in each month in the Board Room of the hospital. Visitors are always welcome and at least one visiting speaker expected throughout the year, 1941.

The staff is honored to have the state president accept an invitation to be guest speaker at the March meeting.

Case Reports

Vaginal Pack

One of my teachers in medical school who was fond of bridge is a master gynecologist. One of his favorite expressions was "A peep is better than a finesse."

Case Number 21925, admitted to the Clinic January 10, 1941. She bore a baby December 24, 1940, stayed in the hospital four days and was discharged due to the limit of charity funds at that hospital. After her return home she had hectic fever, a copious vaginal discharge, backache and weakness. The relatives had talked to several doctors about the patient but never had a physician see the patient. An accurate history was hard to obtain. About all one could get the patient to say was that she was ruptured and that her "wound was down." On examination the abdominal wall was remarkedly relaxed.

A foul smelling pus pack was removed from the vagina. The poor woman immediately felt better.

The patient said she was not told that a pack was left in her vagina. From the history that her family gave one would have expected a prolapsed uterus, but "a peep is better than a finesse."

Edwin M. Meek,
Columbus, Miss.

Mighty good.—Ed.

* * * *

Placenta Previa

The relative infrequency of placenta previa together with its occurrence in an "abortion habit" patient was responsible for a delayed correct diagnosis of this condition in a recent personal experience.

Patient, with a history of repeated abortions, began bleeding at the end of the fourth month of pregnancy and continued without intermission despite all measures to control same and prevent another miscarriage. After six weeks of bleeding, labor pains developed whereupon a digital examination revealed the true condition. The cervix being slightly patulous, two fingers were passed and an opening made in placenta into which the occiput fitted nicely after a dose of pitocin. Bleeding was terrific but soon was relieved by pressure of head. Journey of head through cervix and vagina was brief and child was born alive. Extrusion of placenta and cessation of bleeding were prompt.

If this incident merits a report it is through the existence of this lone feature, viz., that the cardinal symptom, hemorrhage, occurring at the end of the fourth month of pregnancy in a woman who had aborted several times, could easily "muddy the waters" and possibly justify a delayed correct diagnosis.

G. D. Hightower,
Webb, Miss.

An interesting case report, Dr. Hightower. Let us have more reports like this, brief and to the point. Such a department will be in the interest of medical progress.—Ed.

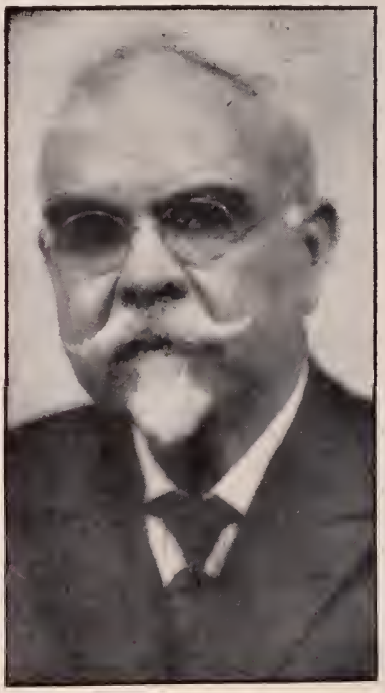
HEADS MISSISSIPPI SURGEONS

Dr. Augustus Street, of Vicksburg, who was elected president of the Mississippi Chapter of the American College of Surgeons at the meeting on the Coast January 31, succeeding Dr. George Adkins, of Jackson. Dr. T. E. Ross, of Hattiesburg, was elected secretary-treasurer to succeed Lawrence W. Long, of Jackson. Dr. Long asked to be relieved on account of so many other duties. Dr. John W. Lucas, of Greenwood, was elected on the executive committee to succeed Dr. Street. Other members of the committee are Drs. J. P. Wall, of Jackson, and J. Gould Gardner, of Columbia.

The meeting was well attended, 70 out of the 76 members being present. It was climaxed by a banquet at the Edgewater Park Hotel presided over by Dr. Street as toastmaster.

Speakers at the banquet included Dr. W. H. Anderson, of Booneville, president of the Mississippi State Medical Association; Dr. J. P. Wall, of Jackson, E. C. Parker, of Gulfport; Lawrence W. Long, of Jackson; J. Gould Gardner, of Columbia, and Robin Harris, of Jackson.

DR. MATAS TO ADDRESS MISSISSIPPIANS



Dr. Rudolph Matas, New Orleans, international dean of surgery is expected to be present at the Mississippi State Medical Association which will hold its annual session May 13, 14 and 15 at the Buena Vista Hotel on the Coast. Mississippi physicians deeply appreciate the beloved Matas.

SOUTHEASTERN SURGICAL CONGRESS

Dr. Irvin Abell, of Louisville, Ky., president of the Southeastern Surgical Congress, will preside at its annual session in Richmond, Virginia, on March 10, 11, 12.

Dr. Abell is the master orator of American medicine. He is a man of fine judgment and unquestioned medical integrity.

BOOK REVIEWS

Dr. Seale Harris, of Birmingham, the spirit of Southern medicine, Professor Emeritus of Medicine, University of Alabama. Dr. Harris is a scholar, an editor, an author, and a type of citizen that blesses any nation. He is a careful student and what he says carries weight.

His book Clinical Pellagra is just off the press, published by the C. V. Mosby Company, of St. Louis. In writing this most interesting book he was assisted by his son, Dr. Seale Harris, Jr., and Dr. E. V. McCollum, of Johns Hopkins, has a foreword. It is a book of 471 pages and illustrated with many pictures and plates. In this book the history of pellagra is carefully traced in this country and others. Alcoholic pellagra is discussed in a most interesting manner in one full chapter. Liberal space with illuminating discussion is given to the quest for the cause of the disease, the relation of infections, food deficiency theories, vitamin deficiency, increased susceptibility. The effect of sunlight in the genesis of pellagra is a most interesting chapter in the book. Comparison of pellagra, pernicious anemia and sprue convinces the reader that they are distinctly separate diseases. The pathology of pellagra is discussed in its relation to the organs of the body. Liberal space is given to clinical investigations made at the Duke University School of Medicine. "Pellagrous patients usually present multiple deficiencies," is one of the author's conclusions. Dr. Harris also summarizes the studies on pellagra at the University of Georgia on 660 cases during a period of twenty years. In Section Five symptomatology, diagnosis, and prognosis are well outlined. Laboratory findings and differential diagnosis are carefully noted, also prevention of the disease. He advances nicotinic acid in treatment especially, while including also dietary treatment.

The relation of pellagra to economics in the South should be of interest to every one.

Surely no book of recent date has been written with more care than this one by Dr. Harris. Surely every practitioner in this country should have a copy. Price $7.00.

A Surgeon Reflects is the title of a book just off the press by Dr. James T. Nix, of New Orleans, and published by the Louisiana State University Press. Dr. Nix has been a very busy man thirty years in one of the most cosmopolitan and interesting cities in the United States. He has now taken time out to record some of his observations in life and in medicine. It is easy to tell that this book has been written by a man who has a professional mind, a medical soul, and a missionary heart. His interest has been keen and his sympathy deep and sincere for suffering humanity. His professional training has been broad, but thorough in every detail. Dr. Nix has a well balanced estimate on human values and visions of the personal life and its possibilities from the cradle to the grave. When you read his book you will be impressed with the importance of knowing your patient in all his relations in life and the value of entering into his joys and his sorrows, of rejoicing with him in success and sympathizing with him in his reverses.

This little book of 115 pages is divided into two main divisions, first, reflections, and second, the profession. Faith, hope, solitude, miracles, calamity, the poor, friends and friendship, success, work, sacrifice and longevity are among the subjects discussed in the first division; and your patients and you, the general practitioner, the new family doctor, safety first and always, the patient always right, G-men in surgery, nursing, medical ethics and social drink are some of the topics in the second division.

This book is certainly calculated to broaden the vision and strengthen the morale of any doctor who reads it with interest. It contains the best antidote we have seen against state medicine. A dollar and a half invested in Dr. Nix's book will bring you big returns.

Fulfillment

"There's a baby on the way,"
Mary said to John one day,
    Cuddling closer all the while,
    Sweet and tender as a smile.

Mary crooned a lullaby,
Musing on her mission high,
    While her fingers fashioned fair
    Dainty things for it to wear.

John sat watching her with joy,
Proud and happy as a boy,
    Heeding Mary's slightest whim,
    Highest bliss on earth to him.

John preferred a little son,
Just as daddies all have done.
    Mary craved a baby girl,
    Gold of hair and teeth of pearl.

Each was willing to admit,
Boy or girl, they'd welcome it,
    Crown it with their love and care,
    Proudest parents everywhere.

Mary brought the little bed
Where the layette she had spread.
    John surveyed it with content,
    Eager for the great event.

When the crucial moment came,
Mary's calmness was the same;
    But poor John, he took the grins
    When the doctor whispered, "Twins!"

DAVID E. GUYTON.

Blue Mountain, Mississippi.

DOCTOR!

You are cordially invited to attend the

Fifty-Sixth Annual Convention

of the

Mid-South Postgraduate Medical Assembly

at

Hotel Peabody, Memphis, Tenn.
February 11-12-13-14, 1941

Read this list of those who will deliver addresses and make your hotel reservations at once.

Dr. William D. Stroud—Medicine	Philadelphia, Pa.
Dr. Leon Herman—Urology	Philadelphia, Pa.
Dr. Russell L. Haden—Medicine	Cleveland, Ohio
Dr. Henry P. Wagener—Ophthalmology	Rochester, Minn.
Dr. Fremont A. Chandler—Orthopedics	Chicago, Ill.
Dr. Bret Ratner—Pediatrics	New York, N. Y.
Dr. Robert A. Kimbrough, Jr.—Obstetrics	Philadelphia, Pa.
Dr. Claude C. Cody—Otolaryngology	Houston, Texas
Dr. Paul R. Cannon—Pathology	Chicago, Ill.
Dr. James G. Carr—Medicine	Chicago, Ill.
Dr. Milton Friedman—Radiology	New York, N. Y.
Dr. Edwin N. Broyles—Otolaryngology	Baltimore, Md.
Dr. Elmer L. Sevringhaus—Medicine	Madison, Wis.
Dr. Francis D. Murphy—Medicine	Milwaukee, Wis.
Dr. Verne C. Hunt—Surgery	Los Angeles, Calif.
Maj. Gen. James C. Magee, Surg. Gen. U. S. Army	Washington, D. C.
Dr. F. W. Schlutz—Pediatrics	Chicago, Ill.
Dr. Wallace M. Yater—Medicine	Washington, D. C.
Dr. E. C. Hamblen—Gynecology	Durham, N. C.
Dr. D. B. Phemister—Surgery	Chicago, Ill.
Dr. Buford G. Hamilton—Obstetrics	Kansas City, Mo.
Dr. E. L. Eliason—Surgery	Philadelphia, Pa.
Dr. R. B. Cattell—Surgery	Boston, Mass.

Programs will be mailed February 1. Write for one if you do not receive yours.

DR. A. F. COOPER, Secretary-Treasurer
Goodwyn Institute Building Memphis, Tennessee

Mississippi State Medical Association

Organized 1867

Next Meeting: May, 1941, Biloxi

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Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. R. Brumfield, Gloster	Anderson Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	W. E. Noblin, Sr., Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	J. A. Slack, Friars Point	Guy R. Post, Clarksdale	1st Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Olarksdale	Julius L. Levy, Clarksdale	
Coast Counties	C. H. McCall, Gulfport	D. L. Hollis, Biloxi	
Delta Medical	H. A. Gamble, Greenville	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. A. Kirk, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley,	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	H. L. Scales, Jr., Starkville	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr., Hattiesburg	3rd Tues., Mch., June, Sept., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	R. J. Field, Centerville	
Winona District		S B. Caruthers, Grenada	

Interpreting Medical Literature

Staff of Review

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

OBSTETRICS

Uterine Bleeding in the Last Trimester of Pregnancy, J. T. Wallace, (Amer. J. Obs. & Gyn., 40:128, 1940.)

Bleeding from the uterus, occurring in the course of the last trimester of pregnancy, is usually indicative either of placenta previa or premature separation of the placenta. There is a strong tendency to differentiate these two conditions by the presence or absence of bleeding. When pain accompanies the bleeding, the syndrome is generally considered to be pathognomonic of premature separation of the placenta, while in the absence of pain the bleeding is held to be due to placenta previa.

Since the author's experience at the Brooklyn Hospital has led him to opinions sharply different from these concepts, he presents an analysis of all patients with bleeding in the later months of pregnancy treated at this hospital during a ten-year period from 1928 to 1937, inclusive.

Just as painless bleeding was not invariably associated with placenta previa in this series, premature separation was not always accompanied by pain. Had the author followed the policy of radical intervention early in the majority of cases, he would have needlessly subjected a large number of patients to the added hazards inherent in the initial section and subsequent sections as well. Nor does the added danger of abdominal delivery over delivery from below at the first section tell the whole story. Some of these patients will develop adhesions, intestinal obstructions, rupture of the scar and may die during or following operations for these conditions.

Many outstanding men feel that there is no expectant treatment of placenta previa or premature separation of the placenta. Frequently, the author abstains from examining a patient who has bled but is no longer bleeding, occasionally for several days, thus allowing the patient to re-establish her hemic equilibrium. Some of these patients may even be safely carried to viability of the child. He cannot agree that Caesarean section without vaginal examination is indicated in all instances of painless bleeding. While such examinations should be done only after all preparations for transfusion have been completed, it will definitely differentiate between painless premature separation and placenta previa, and indicate the type of previa and the state of the cervix.

In practically all cases of premature separation, the membranes should be ruptured and a tight abdominal binder applied. This simple expedient, by reducing the amount of amniotic fluid in the uterus, allowing it to contract down more tightly around the baby, thus closing off open sinuses and exerting direct pressure on the placenta, has satisfactorily controlled the bleeding in the majority of the author's patients. The author has resorted to Caesarean section and hysterectomy hardly at all, feeling in a situation desperate enough to require this operation, the patient would probably succumb from such a formidable procedure more certainly than if more conservative measures were used.

There was a total of 70 cases of bleeding or one in 146 deliveries. Fifty-five were due to premature separation and 15 to placenta previa. Twenty-seven and two tenths per cent of the 55 premature separations were toxic. In any discussion of premature separation, it should be emphasized that in some instances the detachment is so slight as to require little, if any, treatment, while in others the lesion is so extensive that it presents one of the most serious problems encountered in obstetric practice. Twenty-eight cases were classed as mild, 18 as moderately severe and 9 as severe. The membranes were ruptured and a tight abdominal binder applied in 40 of the 55 cases. Twenty-seven, or 49 per cent, of the cases had no pain at all either with or following the initial bleeding until the onset of labor pains. In eight of these cases the onset of labor preceded the bleeding and the onset of bleeding caused no change in the character of the pains.

The majority of these cases of painless separation presented a real problem in diagnosis, as the bleeding was the only indication that anything was wrong. The differential diagnosis was made by inability to palpate the placenta on vaginal examination and was later confirmed by evidence of placental separation at the time of delivery. That the painless type of premature separation is not confined to the earlier part of the last trimester when both uterus and baby are small, but may occur just before or at term, is attested by the fact that 11 patients were calculated to be at term and their babies weighed 7 or more pounds at birth.

As a result of this study, the author is of the opinion that all patients with bleeding should be examined vaginally before section is done. This examination will definitely differentiate between placenta previa and painless premature separation of the normal implanted placenta, frequently indicating less radical treatment than section. Premature separation of the placenta is usually better treated by the more conservative method of rupturing the membranes and application of a tight abdominal binder than by Caesarean section. The widely accepted dictum that painless vaginal bleeding in the latter months of pregnancy is almost always indicative of placenta previa, is fallacious. Of 41 cases of painless bleeding 60.6 per cent were due to premature separation of the placenta, rather than placenta previa.

—J. F. L.

PATHOLOGY

Present Status of Knowledge Concerning Influenza, Frank L. Horsfall, Jr., Amer. Jour. Pub. Health, 30:1302-1310, November, 1940.

The name "influenza" is derived from an Italian term first used in the 17th century and means literally "an influence of the stars." The disease has been described frequently and variously since ancient times—usually an ill-defined symptom-complex characterized by sudden onset, fever, headache, chills, muscular pains, and cough. Not until 1933, however, was the etiologic agent discovered to be a virus. The isolation and characterization of this virus formed the foundation for a great deal of subsequent investigation, with much study being given to the various epidemics throughout the world during the past 7 years. The results which have been obtained by various workers in different epidemics strongly suggest that epidemics of influenza may not always be caused by one and the same agent. At the present time no pathognomonic signs or symptoms have been established which would serve to distinguish cases of influenza of known etiology from cases of unknown cause. Despite the fact that the various clinical and epidemiological manifestations of the disease may be nearly identical in two separate epidemics, it does not follow that the causal agents are similiar or related. Whether the virus is the most important cause, or even the most frequent cause, must await the investigation of numerous epidemics in the future.

To distinguish between the type of influenza caused by a known virus and all other types of unknown cause, workers associated with influenza research have agreed to use a nomenclature which is specific in terms of present knowledge and capable of expansion as additional facts are unearthed.

"Influenza A" will be used to designate the disease caused by infection with any strain of the virus discovered in 1933 by Smith, Andrews and Laidlaw. "Clinical Influenza" will be used to designate the disease or group of diseases clinically resembling it but as yet of unknown etiology. If other "influenza viruses" are isolated they could be labeled influenza B virus, C virus, etc.

Diagnosis of "Influenza A" is conclusive after laboratory evidence of the virus being recovered from the throat washing of a given case and an increase in antibodies against the virus demonstrated in the serum of the same patient. Such evidence is difficult to obtain, and even in the most thoroughly equipped laboratories, only a small percentage of cases in a large epidemic can be studied with any degree of thoroughness. The recovery and identification of influenza A virus from a given throat washing require considerable time and, even under the most favorable circumstances, cannot yet be accomplished in less than three weeks. The serological tests offer easier and somewhat more rapid methods of specific diagnosis. The recovery of influenza virus from throat washings is usually done by the intranasal inoculation of ferrets. The costliness of these animals, along with the fact that they must be strictly isolated to prevent contact infections from either influenza A virus or canine distemper virus, makes experimentation with them a complicated procedure. Influenza A virus as it occurs in the human disease is not pathogenic for mice.

Persons in contact with patients suffering from influenza A may or may not develop the illness. However, many who do develop clinical symptoms are nonetheless infected by the virus and have what may be termed subclinical infections. In a recent study by Horsfall, Hahn, and Rickard, it was found that nearly 30 per cent of contacts who remained perfectly well had actually been infected by the virus. It may well be that this group with inapparent infections are of much greater importance in spreading the disease than are those persons whose illness incapacitates them and thereby markedly reduces the number they might expose.

Numerous efforts have been made to prepare vaccines effective in producing active immunity to influenza A in man. Recently it was reported by Horsfall and Lennette that a formalinized complex vaccine containing both influenza A virus and canine distemper virus was very effective in the immunization of ferrets against antigenically different strains of the former virus. More recently, at the laboratories of the International Health Division of The Rockefeller Foundation, it was discovered that a similar formalinized complex vaccine prepared from chick embryos infected simultaneously with both influenza A virus and canine distemper virus was very effective in stimulating the production of additional neutralizing antibodies against influenza A virus after a single subcutaneous injection in man. Experiments are now in progress to determine for how long a period these increased antibody titers will persist.

In conclusion, Dr. Horsfall again points out that many epidemics of clinical influenza are still of unknown cause, and that until the recovery of an etiological agent, or agents, from epidemics of this kind, our information concerning this group of diseases will remain very incomplete.

* * * *

With regard to the "best known modern treatment for influenza," the Journal of the American Medical Association (v.116: p.264, Jan. 18, 1941) states the following:

"There is no specific treatment for true epidemic influenza. Modern therapy is of necessity still symptomatic. It places a special emphasis on two points: rest in bed and good nursing care. The patient should be put to bed as early as possible after onset of the disease and kept there until convalesence is well established. The object of good nursing is to promote the comfort of the patient and to preserve his strength. The diet during the acute stage should be liquid, given at frequent intervals, and not to exceed 3,000 cc. A small enema on the second or third day is preferred to purgation by cathartics. Headache and body pains are combated by judicious and restricted use of analgesics and sedatives, among which salicylates and codeine are probably most useful. The irritating cough is treated by keeping the air of the sick room moist, by inhalation of compound tincture of benzoin in steam and by expectorant and sedative drugs."

RELIABILITY AND SIGNIFICANCE OF THE GORDON TEST IN HODGKIN'S DISEASE, P. E. Steiner, Arch. Path., 31:1-10, (Jan.) 1941.

In 1932 Gordon described a syndrome in laboratory animals characterized by spastic paralysis, inco-ordination, ataxia, retraction of the head, fits and loss of weight following the intracerebral inoculation of material from Hodgkin's lymph nodes. Twort had previously noted formation of sterile nodules after subcutaneous injection of such material. Gordon originally suggested that a virus might be the cause both of the phenomenon in experimental animals and Hodgkin's disease; but further observations indicated that the chief value of the reaction in animals would be that it provided a biological test for Hodgkin's disease.

The technic of the test follows: fresh lymph node ground in a mortar is added to nine parts of nutrient broth. The mixing is carried out with sterile precautions and the mixture is heated at 60°c for 30 minutes. The mixture is stored in the ice box for seven days and is shaken daily. If still sterile, one half cc. of the supernatant fluid is inoculated intracerebrally into a rabbit.

A positive reaction appears after the second day and is characterized by spastic paralysis, ataxia, muscle weakness, tremors, opisthotonos, nystagmus, and weight loss. Some animals recover, others die.

In 21 cases of Hodgkin's disease diagnosed histologically, the Gordon's test was positive in 76 per cent. Biopsy material was more satisfactory than autopsy material.

In 40 cases of lymph node disease other than Hodgkin's disease, the results of the Gordon test were uniformly negative.

Results of the Gordon's test collected from the literature show that the test was positive in 73.9 per cent of Hodgkin's disease and gave eight false positive results or 1.77 per cent of the total. An analysis of the false positive result indicates that in nearly all cases a correct diagnosis could easily have been made by other methods. It is evident that the biologic test should accompany rather than supplant histologic diagnosis.

The anatomic basis for the symptom complex produced in animals lies in degenerative changes in the Purkinje cells of the cerebellum.

No specific cells have been known to cause the Gordon's reaction, but human leukocytes, leukocytic cream from eosinophilic blood, lymphocytes, myelocytic leukemia blood cream, and leukocyte pus have been reported as showing the presence of the agent responsible for producing the reaction. A very small amount of potassium oxalate produces a delayed reaction simulating the Gordon reaction.

Human bone marrow, spleen, and possibly other tissues give the same reaction, and it is unlikely that the agent is responsible for the development of Hodgin's disease. The presence of the agent in a wide variety of tissues does not decrease the value of the Gordon's test as a practical diagnostic aid, but does indicate that the reaction is non-specific.

The properties of the Gordon agent indicate that it is not a living agent such as a virus and is probably not a neurotoxin. It may be an enzyme.

—J. C. H.

PEDIATRICS

THE MANAGEMENT OF PREMATURE INFANTS, George T. O'Byrne, Texas State Journal of Medicine, 36:363 (September) 1940.

The author of this article has gone into the management of premature infants in a very thorough way. In the beginning he stresses the importance of proper prenatal obstetric practice which directly influences the mortality rate for both mothers and babies. Of particular importance in this regard are the tests for syphilis and the syphilitic mother adequately treated before delivery, as well as the prevention, care and treatment of infections and toxemias. The importance of the delay in the induction of premature labor or doing a Caesarean section prematurely is stressed with due regard to the safety of the baby.

The immediate very judicious care of the baby at birth with particular reference to avoiding chilling, and the use of oxygen and carbon dioxide and gentle respiration is very necessary.

The smaller infants and those in poor condition are kept in incubators of the Hess type with automatic temperature control and oxygen administration. It is also suggested that "home-made" incubators may be very satisfactorily made out of galvanized iron or wood. These can be so improvised as to accommodate the use of oxygen and heated with a small light globe. The temperature of the incubator should be held around 95 to 100° F.

For the first 72 hours, the feeding of the premature infants can practically be made a routine procedure, and after this preliminary period of observation, the feeding of each one is an individual problem. For the first 12 hours no food or water is given, and for the first 24 hours, the infant depending upon its weight and condition receives from 4 to 16 cc. of breast milk and from 8 to 32 cc. of water.

He emphasizes that smaller infants be underfed because of their undeveloped digestive systems, which are easily upset. During the second 24 hours breast milk is suggested, the quantity to furnish 20-35 calories per pound per day and in most instances administered by a medicine dropper every two or three hours. Occasionally, it is impossible to feed an infant by dropper, and in such cases the formula is administered by gavage every four hours. In the event that the infant vomits persistently, he suggests the use of Hartman's solution and glucose subcutaneously, and in some cases phenobarbital is of value.

It is suggested that in addition to the formula an effort should be made to give fluids by mouth in amounts equalling one-seventh to one-fifth of the body weight daily, the formula being included in this calculation.

In some cases he suggests the use of skimmed lactic acid milk in amounts equalling one-eighth to one-sixth of the total volume, or U.S.P. lactic acid (one drop to the ounce) is added to the breast milk.

During the second week he suggests the beginning of viosterol in halibut oil and orange juice. In the event that orange juice is not tolerated, he suggests the use of tomato juice or ascorbic acid. He also suggests the use of yeast extracts in one to four cc. doses.

As a typical formula for an infant weighing three and one-half pounds during the first ten days to two weeks: breast milk, six ounces, of which he receives three-fourths of an ounce every three hours. At about the tenth day, one ounce of skimmed lactic acid milk is added; and if the weight remains stationary and the general condition good, during the third week the calories may be cautiously increased by the addition of breast milk and skimmed lactic acid milk.

After the first few weeks it may be necessary to feed 50 to 60 and occasionally as high as 75 calories per pound, in order to satisfy the infant's appetite and produce a satisfactory gain. He advises against the use of intravenous salines, Hartman's solution and glucose in the superior longitudinal sinus.

He only suggests the use of sugar in feeding when the weight approaches 4 to 4½ pounds and, in the event of the scarcity of breast milk, he then suggests the use of evaporated milk. In infants that fail to gain even though their formula is correct and they are free from infection, he suggests the use of intramuscular injections of whole blood.

He mentions the fact that these babies often develop a hypochromic anemia at about the twelfth week due to an inactive hematopoetic system and to the fact that they have very little iron stored in the liver at birth. Ferrous salts are recommended, and if the patient is doing well between the second and third month, ferrous sulphate or chloride and egg yolk may be added to the formula, bearing in mind, however, that some infants cannot tolerate iron, copper or egg yolk.

He states that the premature infant's lack of resistance to infections should be constantly borne in mind, particularly with reference to upper respiratory and skin infections. These infants should have no visitors. The nurse should wear a clean gown and mask.

He suggests that breast milk is the best food, in the event that this is not available, similac, olac or protein milk may be satisfactory. These infants must not be overfed during the first few weeks.

COMMENT

In my experience in the care and treatment of premature infants for many years, I can heartily agree with the suggestions of the author. There are so many points of great importance in the treatment of premature infants that it is difficult to say which one is the greatest in importance. Extreme caution should be used that these premature babies are not overfed, but on the other hand there must be proper and adequate food. It is generally agreed that breast milk is, of course, the most valuable food, yet evaporated, dried milk and whole cow's milk, if properly prepared, are satisfactory.

—H. F. G.

State Board of Health

Felix J. Underwood, M.D.

Maternity Hygiene Problems and Recent Efforts to Improve Maternity Hygiene Service in Mississippi*

A study of the present status of maternity hygiene in Mississippi shows four main factors which contribute largely to the major maternity problems of the state. These factors are: 1. The educational status of certain groups of individuals; 2. Economic conditions; 3. Racial distribution of the population; and 4. Environmental conditions. Many of the existing problems have been influenced by more than one of these main factors.

In Mississippi, as well as in most other states, it is apparent that knowledge of good maternity hygiene has not been adequately disseminated among all physicians and nurses, and even less among large groups of the lay population. In a study[1] of maternal mortality deaths in New York City (1930-1932), it was shown that 65.8 per cent of all maternity deaths were preventable. It identified three major factors as involved in the prevention of these deaths: namely, the obstetrical attendant, the patient, and the community. In a study made in Pike County in 1938 by Lapham[2], it was pointed out that nearly half of the preventable stillbirths and the neonatal and maternity deaths were considered to be due to neglect on the part of the patient or of the patient's family. The physician, the midwife, and the county health department shared the responsibility for the other half.

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*Abstract of paper presented by T. Paul Haney, Laurel, Miss., before the Mississippi Public Health Association, Jackson, Miss., Dec. 11-13, 1940.

It may be assumed that neglect on the part of the patient or patient's family is usually due to lack of sufficient knowledge concerning what is necessary for proper maternity care. On the assumption that over 65 per cent of the maternity deaths are preventable, and that half of these are due to neglect, we may conclude that 102 mothers died in Mississippi in 1939 because of neglect or from lack of effective educational procedures concerning maternity care. An approximately equal number, by similiar reasoning, would be charged to the combined failures of the physicians. the midwife, the county health department and the community. The New York study referred to showed that among this group, lack of training, skill, or knowledge was to a very considerable extent responsible for the lack of effective care. The same study also attributed more than half of the deaths, for which physicians were held to be responsible, to errors of technic. This is also an indication of inadequate training in obstetrical procedures.

Dunham, Tandy, Daily and Hayes[3] show that a large proportion of the stillbirths that prompt hospital treatment of hemorrhage cases will reduce the number of stillbirths from this cause; and that by improvement in prenatal and delivery care there will be realized a substantial reduction in the number due to birth injuries.

A study made by Bundesen, Fishbein, Dahms and Potter[4] indicates that the four important factors contributing to preventable neonatal deaths are: maternal complications, inexpert obstetrical care, prematurity, and incorrect or inadequate neonatal care. It is evident that of these, at least three factors, and possibly even prematurity, could be markedly influenced by the more general dissemination of essential facts regarding maternity and infant hygiene.

If we should accept the conclusion of the Pike County study[2] as applicable to stillbirths and neonatal deaths in all of Mississippi it would be found that in 1939, of 2698 stillbirths and 1637 neonatal deaths, 2852 might have been prevented by proper care and attention on the part of all concerned.

Public health administrators have long recognized the influence of ignorance upon infant and maternity hygiene problems and have hoped to combat it in part by pointing out its consequences. Many patients fail to report for the necessary medical and nursing care early enough in pregnancy, and all too often when seen fail to follow the instructions given them. Midwives in many instances fail to recognize serious conditions in sufficient time to call for life-saving medical and nursing assistance. Physicians, too, often fail to give the necessary attention to mother and child throughout the maternity and neonatal periods.

A larger percentage of live births are in rural than in urban areas, and comparatively small percentage is delivered in hospitals. The negro furnishes one-half of the total population of the state, contributing 54.0 per cent of the total live births, 68.8 per cent of the maternity deaths, 55.1 per cent of neonatal deaths, and 73.7 per cent of the stillbirths. The large percentage of negro population in Mississippi adds to the seriousness of any problem influenced by educational or economic factors, since a great majority of the negroes are uneducated and have a distressingly low economic status. Midwives attend about 83.6 per cent of the negro births. Syphilis and nutritional disturbances are more prevalent in the negro population and these factors have an important bearing upon maternal mortality and morbidity.

Any further efforts to improve maternity and infant hygiene in Mississippi must in greater measure take into consideration the educational and economic status of the negro, if the best results are to be achieved.

All of the problems described, although serious and great, are not so far beyond solution and control as to discourage trying to do something about them. The rise of the county health department has pointed the way of bringing to the predominantly rural population in Mississippi the benefits of better maternal and infant care. The objective of the maternity program of the county health department is to make available complete service for maternity and infant care to all women in the county, through either private or public agencies. This necessarily increases the time, efforts and responsibility of the medical and nursing professions in connection with maternity cases. It is believed that health departments can and should endeavor to conserve the physician's time, lighten his burden, and share in the responsibility of rendering an adequate service to maternity cases.

The maternity program in a county health department, such as Pike County's, is a co-operative program, rendered by the medical profession, the health department, and the community. The first joint action of this is to make a study of maternity care in all its phases in the county and summarize constructive suggestions for improving the service. The program must provide services approved by both medical and public health authorities and at the same time adequately provide the maternity and infant hygiene needs of the community.

The program includes medical care by private physicians, or by the health department, to mother and child throughout the maternity cycle and the neonatal period. Supplementing this to the extent that complete care may be given the mother and child, the health department provides nursing service. This includes supervision and care during the entire maternity and neonatal periods by nurses specifically trained in this field. The service is conducted under the supervision of the medical attendant and is rendered to maternity cases referred by private physicians and also by midwives. The health department requires that the midwives refer to the nursing service all cases accepted by them for midwifery and care. The health department provides, and the nurse carries with her, adequate clean and sterile supplies for delivery. Sterilization is done in the health department autoclave, and enough complete units, contained in conveniently sized and easily-handled bags, are kept available and ready for use at all times. No charge is made to the patient or physician for either supplies or services.

Necessary dental prophylactic and corrective care is also stressed in the maternity and infant hygiene program to better insure the dental health of both mother and infant following delivery. An educational service to help physicians and nurses and also to disseminate throughout the community a better understanding of adequate maternity and infant care is embraced in the program. Very careful supervision and instruction are given to the midwife by the public health nurse. Attention is given to the quantity and quality of hospital facilities available to maternity cases, and where the physician believes it necessary, efforts are made to provide hospitalization for those cases with conditions which cannot be given adequate attention in the home.

It is confidently believed by many who have been associated with the development of maternity and infant services through the full-time county health department, that there is no other public health activity which nets more lasting results, more complete co-operation of the medical profession, or greater appreciation on the part of the public for the public health worker's efforts. With a continuance of definite improvement in maternity and infant care, it is believed there will follow a gratifying decrease in the number of stillbirths and neonatal deaths as well as maternal deaths. A good maternity and infant hygiene program is an integral part of the public health services of a county, designed to protect and promote the health and well-being of all its inhabitants.

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* * * *

Miscellaneous Notes

Health Workers Get 'Flu' Vaccine

The new vaccine against influenza A, developed by Horsfall and Lennette of the Rockefeller Foundation, and described in SCIENCE, May 24, 1940, was given at the State Hygienic Laboratory in January to 146 volunteers, including employees of the Mississippi State Board of Health and others. This is a "formalinized complex vaccine prepared from chick embryos infected simultaneously with both influenza A virus and canine distemper virus, and has proved very effective experimentally in stimulating the production of neutralizing antibodies" against this specific virus. The factors demonstrated as a result of the new vaccine may prove to be one of the most important contributions to medical research in years and may possibly lead to the development of protective vaccines against other diseases in the virus group.

* * * *

County Health Department News Notes

During the early part of January, full-time health departments began operation in the following counties:

Benton-Tippah Counties — headquarters located at Ripley.

Prentiss County—headquarters located at Booneville.

Tri-County District (composed of Covington, Jefferson Davis and Lawrence counties)—headquarters located at Prentiss.

Dr. George E. Gibbons, formerly serving as relief director, Tallahatchie County Health Department, while Dr. E. W. Ryan was away on scholarship is now Health Officer of the Noxubee County unit.

Dr. George B. Neukom has been appointed director of the Panola County Health Department.

Dr. T. L. Owings has been appointed director of the Lafayette County Health Department. Succeeding Dr. Owings as Pearl River County Health Director is Dr. R. L. Simmons, formerly Assistant Health Officer of the Lauderdale County Training Center. Dr. W. D. May, who has completed three months' training in public health, becomes Assistant Health Officer of the Lauderdale Training Center. Dr. C. A. Bailey, formerly on the staff of the Rockefeller Foundation is now Acting Director of the Yazoo County Health Department.

County Societies

DESOTO COUNTY

Jan. 19 was the birthday of Gen. Robert Edward Lee, one of the most notable men of all times. Lord Wolseley, who visited General Lee's headquarters in 1862, subsequently wrote that "Lee is stamped on my memory as a being apart and superior to all others in every way." The Lees of Virginia, to whom the eminent Confederate soldier owed his origin, were an illustrious family of the state that has been designated the "Mother of Presidents." He was the son of the Revolutionary General Henry Lee, known as "Light-Horse Harry," and was graduated from West Point in 1829, ranking second in a class of forty-six.

Over-powered, General Lee laid down his sword in a manly, magnanimous manner. His mind was pure, his character upright. In a remarkable degree he exhibited inflexible devotion to duty. He was loved by his men; handsome, he looked and acted like a master of men, a Christian gentleman, one of the noblest of all time. His military campaigns have been studied by the strategists of many countries.

Three days after his death his remains were buried beneath the chapel of the University at Lexington, now known as Washington and Lee University. In accordance with his request, no funeral oration was pronounced.

Great of heart, magnanimous, courtly, courageous General Lee will ever be remembered by those who revere these qualities.

The right and left hands of General Lee were Generals "Stonewall" Jackson and James Longstreet. The latter often visited Macon, Mississippi, where he had a number of relatives. General Longstreet was once offered the presidency of the famous Louisiana Lottery at a salary of fifty thousand dollars per annum. As he was in sore straits financially at that time, and as there was no work attached to the position, "it took heroic nerve to resist the tempting offer." The promoters of the lottery desired the name of General Longstreet for the influence it would lend to the lottery. This was soon after the War Between the States. The general's estate was at a low ebb, but he was a gentleman of the lofty sort; "I cannot allow the use of my name for the presidency of any institution in which there is a semblance of a game of chance. However, much I may need the money, my duty to my people and to the young manhood of the beloved South, as well as my duty to my Master, forbids my acceptance of the offer." General Longstreet's natal day was Jan. 8, 1821.

* * * *

I have before me the program of the Mississippi Medical Association for 1901; among those that officially took part, the greater part, have "crossed over the river," however, I notice the names of Drs. C. D. Mitchell, P. W. Rowland, E. M. Holder, H. A. Gant, W. H. Scudder and C. L. Green, who are still with us.

In the section on gynecology, there were three essayists all from the same city, the place of meeting; note, if you please, their respective subjects:

Report of an Operation for Removal of Right Ovary and Tube and Vermiform Appendix and Alexander's Operation for Stitching Uterus to the Abdominal Wall. - - - - - - - M.D.

Abusive Treatment to Uterus and Appendices with its Pernicious Results. - - - - - - M.D.

Simple, Everyday Gynecological Work — The Importance of Knowing When and How to Do It. - - - - - - M.D.

The author of this third paper was the chairman.

* * * *

The New Zealand kiwi, says our OUR ANIMALS, is a small bird which is unable to fly. In its search for food, it is said to stamp on the ground and the vibrations supposedly trick the worms to the surface in the belief that it is raining. The innocent worm thus deluded is gobbled up by the kiwi. No one expects much of the worm, early or late, but that story claims quite a lot for the intelligence and instinct of the little grounded New Zealand bird.

* * * *

Bon mot snipped from somewhere: A news item says Moscow residents average only one bath in 18 months. Things like that are what attract young boys to Communism.

* * * *

Careful, now: Falls on the streets cause about twice as many non-fatal injuries each year as automobile accidents—and a large majority of these street mishaps occur in the wintry months of December, January and February. And around 1800 Americans die annually from street falls.

* * * *

The talent of success is nothing more than doing what you can do well, and doing well whatever you do, without a thought of fame.—Longfellow.

* * * *

Only they who fulfill their duty in everyday matters will fulfill them on great occasions.—Kingsley.

* * * *

We hear with sincere sorrow of the death of the wife of Dr. P. W. Rowland and the serious illness of Dr. C. D. Mitchell. May the "Giver of every good and perfect gift" be consoling to those who suffer and mourn.

* * * *

Medical Society Meets

The first meeting of the year of the DeSoto County Medical Society was held at the Spencer Cafe where a splendidly served supper was enjoyed by the members.

The following officers were elected for 1941: President, Dr. J. M. Wright; Dr. A. V. Richmond, vice-president; Dr. L. L. Minor, secretary and treasurer; delegate to the State Association which meets in Biloxi in May, Dr. C. W. Emerson; alternate delegate, Dr. H. M. Wadsworth; Drs. A. L. Emerson, D. C. Funderburke and Arthur Vandergift, censors.

During this influenza epidemic, or, in fact, at any time, do not consult your cook, neighbor or any one else but your family doctor and follow his advice implicitly.

Nothing is more estimable than a physician who, having studied nature from his youth, knows the properties of the human body, the diseases which assail it, the remedies which will benefit it, exercises his art with caution, and pays equal attention to the rich and the poor.

In sickness and accident always consult your home doctor first.

Rt. 4, Memphis, Tenn. L. L. Minor,
Jan. 19, 1941. Editor.

MINUTES OF THE EAST MISSISSIPPI MEDICAL SOCIETY MEETING, JAN. 2, 1941

The meeting was called to order in the Blue Room of the Lamar Hotel, Meridian, Miss., at 6:30, January 2, 1941, by the president, Dr. Gush Rush, Jr., with an attendance of about thirty physicians. A banquet was served; and during the banquet, a musical sound film was presented by Dr. N. C. Knight.

The business session followed, which was featured by the election of officers for 1941. The nominating committee, appointed by the president, consisted of Dr. C. J. Lewis, Dr. Dudley Stennis, Dr. W. H. Banks. The election resulted as follows:

President—Dr. C. A. Kirk, Louisville, Mississippi (one year).

Secretary-Treasurer—Dr. N. C. Knight, Meridian, Mississippi, (two years).

A motion was made, seconded, and duly carried by Dr. Guy T. Vise to have a meeting every three months; and the month the East

Mississippi Medical Society meets, the Lauderdale County Medical Society will not meet. The motion also included an annual assessment of each member of $5.00 to cover expenses of food, etc.

A motion was made by Dr. K. O. Stingily, seconded by Dr. N. C. Knight, and unanimously carried that the East Mississippi Medical Society pay one-fourth ($89.63) of the purchase price of motion picture sound equipment, which consists of motion picture projector (sound and silent), screen, two loud speakers, and microphone attachment.

The Newton County Medical Society reported the following officers elected for 1941:

President—Dr. Z. C. Hagan.

Vice-President—Dr. J. W. Pennington.

Secretary-Treasurer—Dr. Dudley Stennis.

Censor—Dr. Omar Simmons.

Delegate to State Medical Society—Dr. Dudley Stennis.

Alternate Delegate to State Medical Society—Dr. J. W. Pennington.

The Neshoba County Medical Society reported the election of the following officers for 1941:

President—Dr. C. H. Harrison.

Secretary—Dr. R. G. Hand

Delegate to State Medical Association—Dr. W. R. Hand.

Alternate Delegate—Dr. W. H. Banks.

The scientific session followed, which consisted of motion pictures presented by Dr. N. C. Knight, as follows:

1. Cardiac and Renal Edema.
2. Collapse Therapy in the Treatment of Pulmonary Tuberculosis.

LAUDERDALE COUNTY MEDICAL SOCIETY

The Lauderdale County Medical Society met in regular monthly meeting in the Blue Room of the Lamar Hotel, Friday evening, January 17, 1941. Dr. R. L. Donald, of Meridian, was host to the society and was in charge of the program. Immediately following the banquet, the meeting was called to order by the president, Dr. K. O. Stingily. The feature speaker on the program was Dr. McLester, of Birmingham, Ala., who presented a most interesting discussion which was followed by general discussion by the different members of the medical society.

Following this scientific session, a business meeting was held as follows:

Election of officers for the year, 1941, resulted as follows: President, Dr. T. G. Cleveland, Meridian; Vice-President, Dr. W. Jeff Anderson, Meridian; Secretary-Treasurer, Dr. R. L. Donald, Meridian; Censor, Dr. A. C. Bryan, Meridian; Delegate to the State Medical Association, Dr. G. L. Arrington, Meridian; Alternate Delegate to the State Medical Association, Dr. H. L. Arnold, Meridian; Editor and Reporter, Dr. N. C. Knight, Meridian.

A motion was then made which was seconded and carried that the Lauderdale County Medical Society would not meet each month that the East Mississippi Medical Society meets.

It was also agreed that the Lauderdale County Medical Society will be host to the East Mississippi Medical Society, March 20, in Meridian.

OFFICERS OF THE SOUTH MISSISSIPPI MEDICAL SOCIETY

The officers of the South Mississippi Medical Society for this year are as follows:

Dr. H. G. Cook, Hattiesburg, President.

Dr. Tom Ramsey, Laurel, First Vice-President.

Dr. C. C. Thompson, Jr., Columbia, Second Vice-President.

Dr. J. P. Culpepper, Jr., Hattiesburg, Secretary and Treasurer.

This society meets quarterly on the third Thursdays of March, June, September and December, alternating the meetings between Laurel and Hattiesburg.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

President	Mrs. E. C. Parker Gulfport
President-elect	Mrs. W. K. Stowers Natchez
First Vice-President	Mrs. Hugh H. Johnston Vicksburg
Second Vice-President	Mrs. Augustus Street Vicksburg
Third Vice-President	Mrs. W. H. Anderson Booneville
Assistant	Mrs. Stanley A. Hill Corinth
Fourth Vice-President	Mrs. B. B. Martin, Jr. Vicksburg

Recording Secretary	Mrs. H. C. Sheffield	Jackson
Treasurer	Mrs. J. D. Simmons	Cleveland
Historian	Mrs. V. B. Philpot	Houston
Parliamentarian	Mrs. C. C. Hightower	Hattiesburg
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Public Relations	Mrs. John B. Howell	Canton
Public Policy and Legislation	Mrs. F. L. Van Alstine	Jackson
Honorary President	Mrs. Dan J. Williams	Gulfport
Memorial	Mrs. Henry Boswell	Sanatorium
Doctor's Day	Mrs. George Wallace	Gulfport
Exhibits	Mrs. John S. Harter	Sanatorium

Councilors: First District, Mrs. H. L. Cockerham, Gunnison; Second District, Mrs. C. M. Roberts, New Albany; Third District, Mrs. T. H. Rayburn, Pontotoc; Fourth District, Mrs. Paul Brumby, Lexington; Fifth District, Mrs. H. E. Frizell, Vaughn; Sixth District, Mrs. R. L. Simmons, Meridian; Seventh District, Mrs. S. E. Bethea, Jr., Hattiesburg; Eighth District, Mrs. Lucien Gaudet, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point.

Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITIES CALENDAR

June—Hygeia.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Pre-Natal Care.
April—Cancer.
May—Alcohol.

CITIZENSHIP

(To Dr. W. H. Anderson, president of the Mississippi State Medical Association, the Auxiliary section is indebted for the February article.)

When one says a man is a good citizen so many fine attributes are summarized there is hardly a higher compliment possible.

A good citizen is like the old family horse—he works double, he does his share of pulling to start the wheels rolling under the load, and he ever keeps his traces taut. The good citizen is unwilling to stand idly by while his fellows pull the load of progress up the hill of community weal; he has an active interest in every progressive cause. He also has courage to act, investing thought and energy, and oftentimes his means, to promote the common welfare. Nor does he choose to live unto himself, assuming a "don't care" attitude to the toils of his neighbor.

The world is in a chaotic condition—due mainly to poor citizenship, diagnosed in selfishness, indifference to the affairs of state, the get-something-for-nothing policy or the fear-of-losing-business motive. A democracy cannot survive without courageous, active, interested participation in the system which governs it. And no class of citizenry should be more interested in democratic government than the medical profession. The right of the individual to choose the doctor of his choice without outside interference is the essence of democratic medicine, the Magna Charta of the medical profession. It is as sacred to the profession as life itself. It is more precious than gold, for it embodies the principle of human freedom. The doctor cannot sit idly by, engrossed by selfish gain or lulled by indifference, and allow chains of dictatorship to threaten the soul of the profession. The doctor's duty to citizenship is the same as any other man's, for his goal even as the minister's, should be human life with greater volume. His job done well helps make better citizens, for the epitome of good citizenship is a daily practice of the Golden Rule.

If the medical profession grasps its opportunity to save democratic medicine, then it may also build a nation's future security, as it builds its physical and mental strength.

The thinking doctor can no more evade his responsibility to citizenship than he can deny the prudence of preventive medicine. This idea of prevention in all life's consequences is contained with challenging emphasis in

Building The Bridge

An old man, going a lone highway,
Came, at the evening, cold and gray,
To a chasm, vast, and deep, and wide,
Through which was flowing a sullen tide.
The old man crossed in the twilight dim;
The sullen stream had no fears of him;
But he turned, when safe on the other side,
And built a bridge to span the tide.
"Old man," said a fellow pilgrim, near,
"You are wasting strength with building here;
Your journey will end with the ending day;

You never again must pass this way;
You have crossed the chasm, deep and wide—
Why build you the bridge at the eventide?"

The builder lifted his old gray head:
"Good friend, in the path I have come," he said,
"There followeth after me today
A youth, whose feet must pass this way.
This chasm, that has been naught to me,
To that fair-haired youth may a pitfall be.
He, too, must cross in the twilight dim;
Good friend, I am building the bridge for him."

WILL ALLEN DROMGOOLE.

From RARE OLD CHUMS. Copyright 1898.
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"WHY READ THE BULLETIN?"

Even the most bureaucratic-minded and garrulous must give the medical men of the world the credit for increasing the span of life from 37 years to 65 years in less than a century. It was not accomplished by law-makers.

The wives of medical men need to know such facts as these.

The Bulletin gives the main facts about the activities in which our organization is engaged, and the progress thereof. It presents the essential features of what is transpiring.

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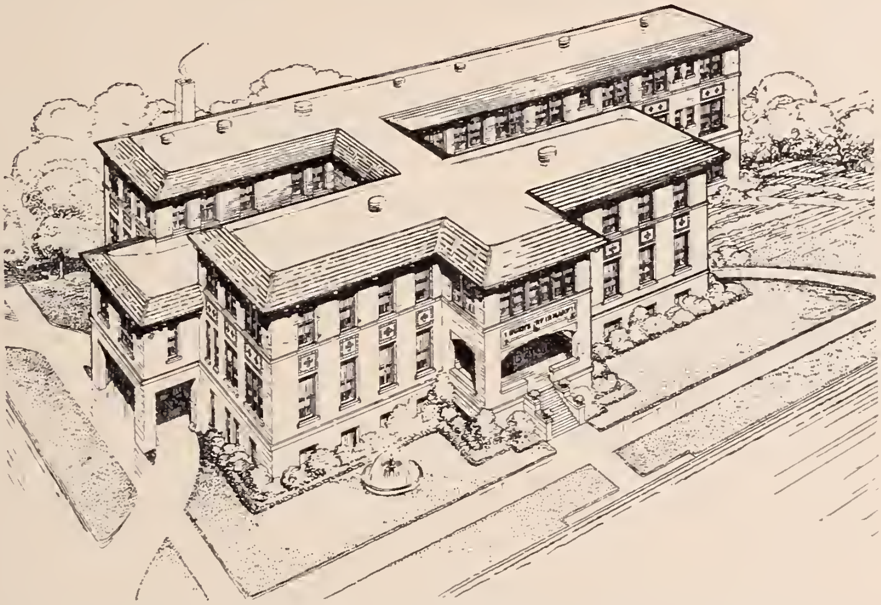

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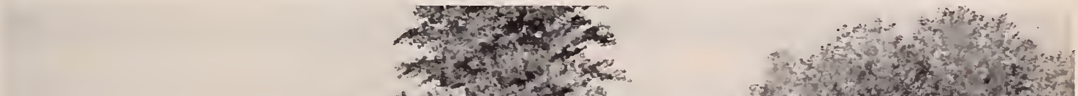

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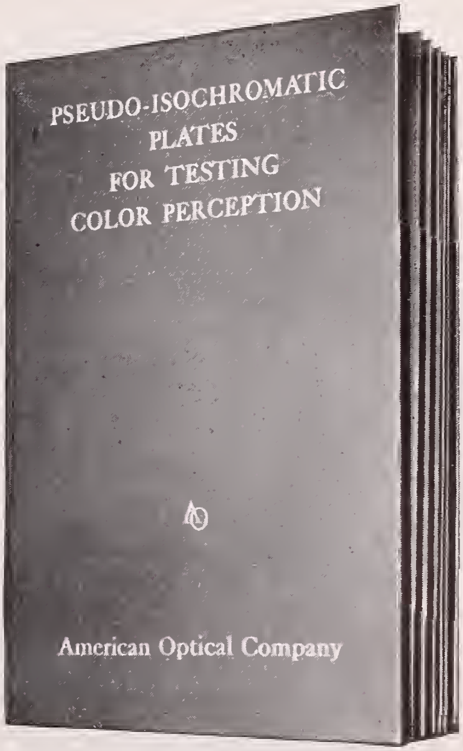

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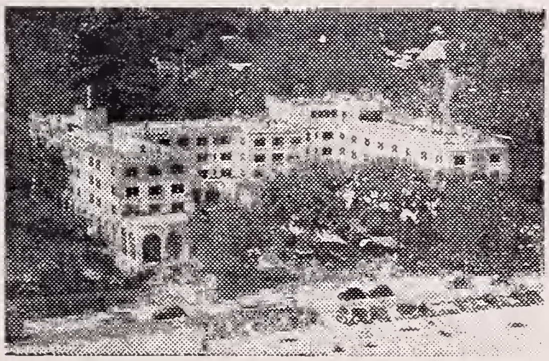

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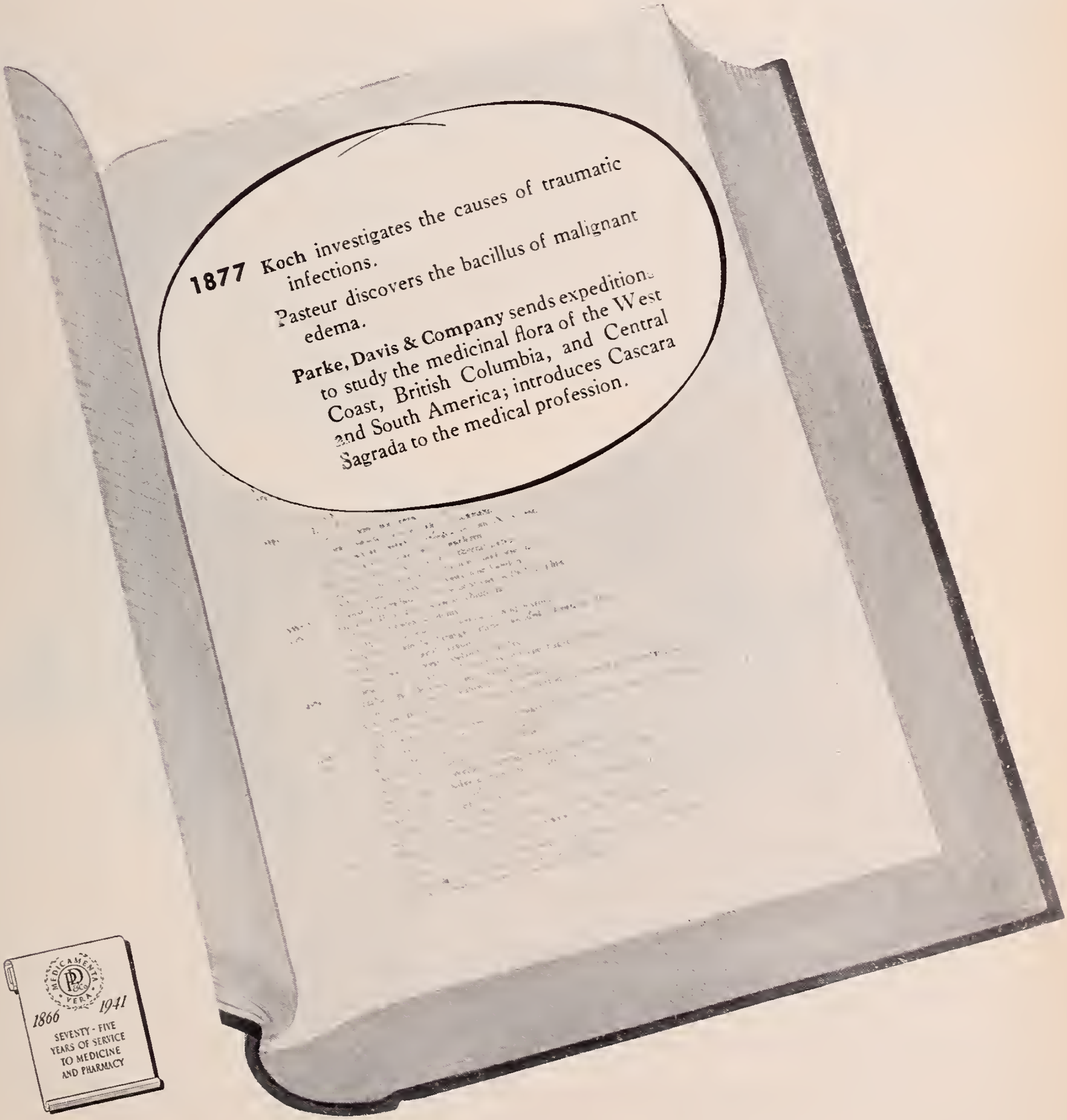

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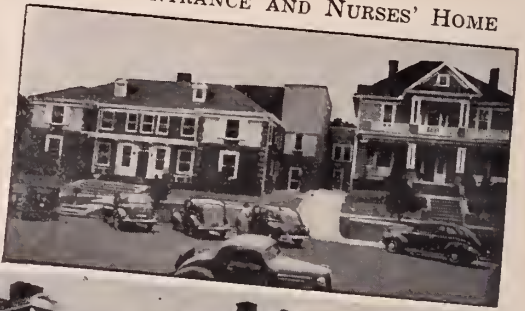

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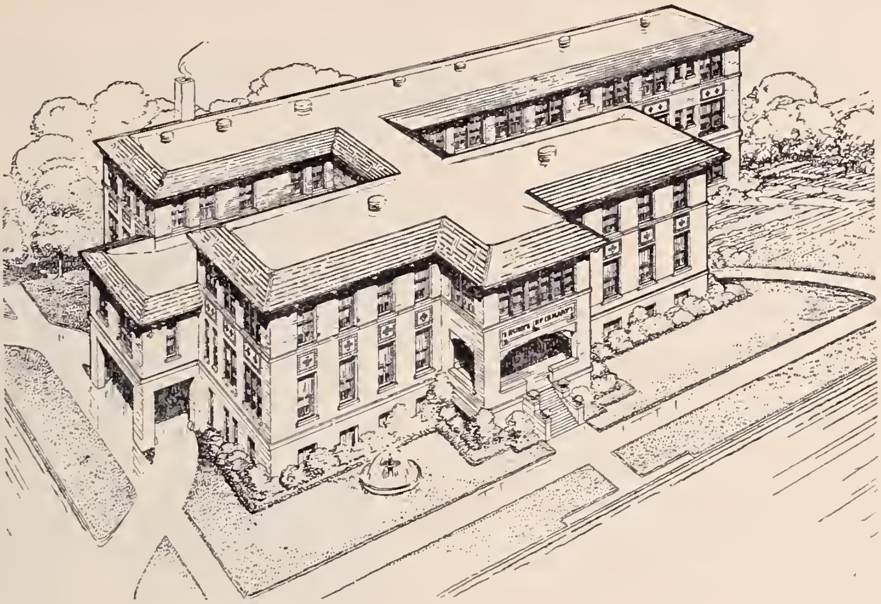

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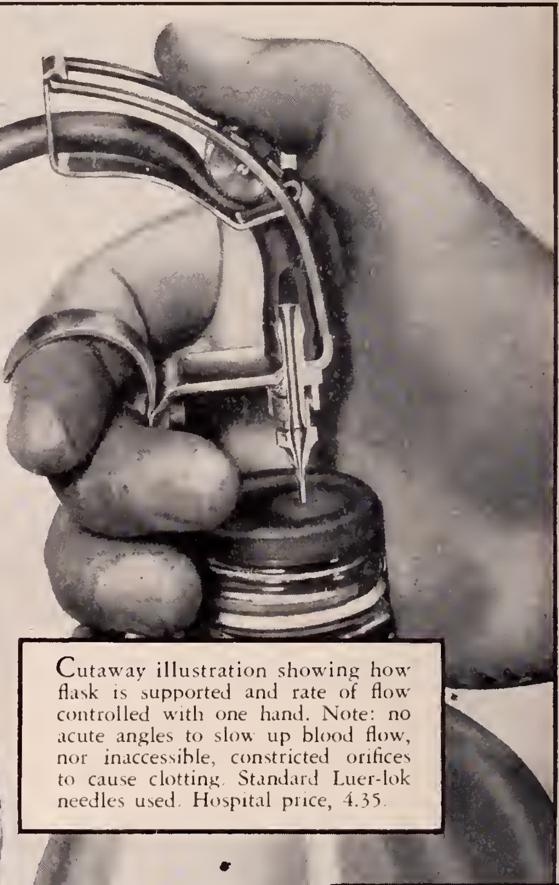

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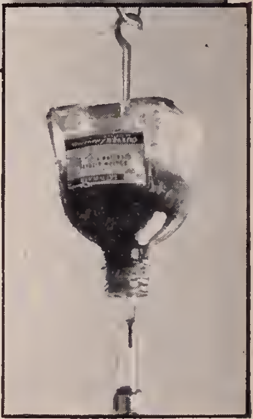

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IT IS A PLEASURE, indeed, to be able to discuss your problem with you tonight—and to outline briefly the task confronting the nation in affording the necessary medical care to the Selective Service enrollees being trained by the Army. I say "your problem" and "the task confronting the nation" because it is actually that way, even though its accomplishment is charged to the Medical Department of the Army

Uppermost in the minds of all physicians is the question of national defense and, at the present time, the Medical Department plans to meet the dual problem of furnishing an adequate medical service to the men of an unpredecented peace-time Army, and of training the large number of Medical Department enrollees who, at the expiration of their twelve months' military service, will pass to the Enlisted Reserve Corps and constitute the trained personnel required for mobilization in the event of a national emergency.

The total strength of the Army of the United States next spring will be approximately 1,400,000. This represents a Regular Army of 375,000, the National Guard of the several states, federalized as the National Guard of the United States, numbering 225,000, and citizens selected for military training during the coming twelve months—about 800,000 in number. The latter will receive their training in active units of the Regular Army and the National Guard, in the Regular Army inactive units activated for training purposes, in the numerous installations required for the overhead of these forces, and in Enlisted Replacement Centers throughout the nine corps areas of the country.

The Medical Department is charged with providing an adequate medical service for the entire Army of the United States at posts, camps, and stations within and without the continental United States. This requires unit dispensaries, station and general hospitals, dental service, laboratory service, and ambulance service, in addition to the veterinary service required for the Army. The means required to accomplish this task are those concerned with personnel, supply, and hospitalization.

The Medical Department task is different from that of the other arms and services. Unfortunately, men get sick, and often in increasing numbers soon after induction. Such sick must be cared for by trained personnel. That is, Medical Department personnel must be able to function from the day of induction, while the other arms and services do not need to function efficiently until they have had the benefit of training. For this reason the Medical Department must have adequate hospitalization available before the men are inducted and it must receive advance quotas of enrollees in order to have them trained for use in hospitals when the need for such hospitals occurs.

In addition to training officers, nurses, enlisted men, and civilians for duty in military hospitals, the Medical Department must train the required tactical personnel for medical duties with divisions, corps, armies, the Armored Force, General Headquarters Air Force, General Headquarters, and certain General Headquarters Reserve Units. Each infantry division has its attached medical personnel with regiments, in addition to its medical battalion that collects, transports, temporarily hospitalizes, and prepares wounded for evacuation to medical installations of the Army located in the rear. From here wounded go to general hospitals, specially designed for particular types of cases. If required, wounded are later evacuated to the home territory. To be able to discharge such duties requires actual practice and maneuvering with line troops under field conditions, simulating warfare. Special medico-military training is required in order to accomplish such tasks. This, too, is a part of the 1940-41 Military Program.

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*Read before the fifty-sixth annual session of the Mid-South Postgraduate Medical Assembly,, Memphis. Tenn., February 11-14.

II. PERSONNEL

Inasmuch as this is a training program, and not war, the War Department has been hesitant in providing the numbers of physicians required, fearing that to do so would disrupt civilian medical service and result in individual hardship to the practicing physicians. Therefore a rational utilization of medical officers is essential.

During World War I, when this country had an army of 3,500,000, the following Medical Department personnel was required:

	Per 1000 Strength:
Medical Corps	8.73
Dental Corps	1.32
Veterinary Corps	.57
Sanitary Corps	.83
Nurses	6.1
Enlisted men	80.38
Civilians	3.00

At that time we had 13,161 Medical Department officers in the A. E. F. and 16,839 not in the A. E. F. Only 938 of this number were Regular Army Medical Department officers.

For the present 1940-41 Military Program it has been considered economical to plan initially on the use of:

6.5 Medical Corps per 1000.

1.5 Dental Corps per 1000.

Translated into round numbers this means 9,100 medical officers and 2100 dental officers. The Regular Army has only 1230 medical officers and 267 dental officers and the National Guard 1115 medical officers and 243 dental officers. The remainder must be furnished from civilian sources. That is why I have said earlier that this is your problem, since the medical profession of this country cannot afford to fail energetically to support the medical program.

In addition to the above, approximately 100,000 enlisted men and civilian employees will be required for Medical Department units and installations.

CIVILIAN PERSONNEL

Because of the fact that the present emergency constitutes a training program in which the President has decreed that a maximum of training will be given to all selective trainees, the employment of more than 30.000 civilians by the Medical Department has become necessary in order that the 80,000 hospital beds may be properly serviced. The positions for these employees comprise a list of 69 differently classified jobs, ranging from janitors to highly trained technicians. It was anticipated more than a year ago that these technicians would be difficult to obtain. The American Red Cross, at that time, began a nationwide enrollment of this type of personnel for use in time of war or when war is imminent. More than 1600 technologists have already patriotically enrolled to serve the nation, and incidentally the Medical Department, under these conditions. The present training program, however, does not fall under the category either of "war" or "when war is imminent." The majority of the Red Cross enrollees, therefore, do not desire to give up their present jobs to enter the Government service. Furthermore, the laws of the nation require that all civilian employees, in time of peace, be taken from registers of the Civil Service Commission as long as such registers are available. This Commission has made a nationwide survey of the available technicians on their registers, and has found that shortages exist in many categories. They are announcing immediate examinations for these positions and are circulating the examination announcements to all the American Red Cross enrollees. Those persons who have enrolled with the Red Cross and who now desire immediate Government employment will therefore have the opportunity to become eligible under the existing laws.

I have cited the civilian personnel matter in order to show how different Governmental agencies have had to be included in the preparations of the Medical Department for the present military training program. Because of the fine co-operation we have had from these agencies and because of the natural inclination of a considerable number of the people of the United States to educate themselves along scientific lines, we are hopeful that the number required will be available for employment as the need arises.

III. HOSPITALIZATION

The problem of hospitalization is a major one. Obviously the peace-time military hospitals are insufficient. Troops have been concentrated at many new posts, which have no facilities. In general, 5% of the military population represents the bed requirement in station hospitals and 1%, additional, represents the general hospital bed requirement. Reduced to round numbers, approximately 82,535 beds will be required by the end of the training year. Of this total, 68,750 beds are required in station hospitals and 13,755 beds are required in general hospitals. The following table shows the beds available and the beds to be provided by new construction in the nine corps areas:

Corps Areas	Beds Available	Additional Beds to be Constructed
First	690	3,324
Second	1,643	3,565
Third	2,207	7,149
Fourth	4,836	22,543
Fifth	988	1,752
Sixth	671	3,552
Seventh	1,578	4,866
Eighth	5,842	7,626
Ninth	3,306	7,526

Since your city of Memphis is located in the Fourth Corps Area, the following data in regard to new hospitals recommended for the Fourth Corps Area may be of interest:

	Beds	
Camp Beauregard, La.,	3,000	
Fort Benning, Ga.,	2,000	
Camp Blanding, Fla.,	2,000	
Fort Bragg, N. C.	3,350	
New Orleans, La.,	1,000	(General Hospital)
Charleston, S. C.	1,000	(General Hospital)
Fort Jackson, S. C.,	1,500	
Camp Peay, Tenn.,	1,500	
Savannah, Ga.	800	
Atlanta, Ga.,	2,000	(General Hospital)
Camp Shelby, Miss.,	2,000	
Macon, Ga.,	1,000	
Fourth C. A. Replacement Center,	1,000	
Wilmington, N. C.	1,000	

The above hospitals are only the larger ones. In addition, there are many smaller hospitals. You can readily see that the major concentration of troops is in the Fourth Corps Area. It is estimated that approximately 471,000 officers and men will be concentrated in this corps area alone, by June, 1941.

In addition to these hospitals, many large dental clinics have been recommended. These clinics are of two types, one a 25-chair clinic and the other a 15-chair clinic. These clinics will operate under the hospital commanders, but will actually be located in the troop areas in order to be readily available to the troops for necessary dental work. Actually every troop concentration of 10,000 and above will have separate dental clinics situated in the troop area.

IV. SUPPLY

The Medical Department is charged with the procurement and distribution of all medical supplies for the Army. These supplies may be placed in two broad classes; first, those items which are used in the routine care of the sick; and second, those items known as field equipment. Materials in the first category are largely the same items as those utilized in civilian medical and hospital practice; they are commercial in nature, and their rate of consumption varies quite directly with the size of the Army. Field equipment, on the other hand, consists largely of items and assemblies adapted primarily for emergency treatment and evacuation of battle casualties. Such items are largely non-commercial in nature and their rate of consumption varies from a negligible quantity in peace time to astronomical proportions during actual combat conditions.

The types of medical supplies required have been determined and specifications covering them have been prepared. Further, estimates have been made as to amounts required for a major mobilization, and studies have been made as to the capability of manufacturers to furnish these supplies. Initiated in the early 1920's, this has been a continuing work, with constant revisions due to change in type of equipment, changes in War Department mobilization plans, and changes in the productive capacity of the various manufacturers. This work, that is the computation of mobilization requirements and the study of manufacturing capacity, is called procurement planning and has been of inestimable benefit in providing a basis for the procurement of supplies in the present expansion program.

This work of procurement and distribution of supplies, while controlled by the office of the Surgeon General, is decentralized to medical depots, where actual purchases are made and where supplies are stored and issued to the using agencies. At the present time, the Medical Department has four active depots in the United States, at New York, St. Louis, San Antonio and San Francisco, plus three reserve depots. Within a very short time, two new active depots will be established at Chicago and at Toledo to care for the increased work of assembly, storage and issue.

For many years the Medical Department has had basic equipment lists covering supplies to be packed for field assemblies such as battalion medical detachments and medical regiments. During the last few months there have also been developed basic equipment lists for station hospitals of various sizes, from 25 to 2,000 bed capacity. This has greatly simplified not only the paper work involved in getting supplies to a new station, but also the actual work of assembly and issue of this equipment.

A year ago the Army had approximately 20,000 hospital beds in 110 station and general hospitals. By July, 1941, there will be approximately 80,000 hospital beds in 180 hospitals; and these hospitals will be fully equipped from mess hall to operating room, an expansion in 18 months of around 350 per cent.

In order that medical supplies for an Army of 1,400,000 men may be properly assembled and distributed, it has been necessary to obtain more than two million square feet of storage space. Space has already been leased in Brooklyn, New York; Chicago, Illinois; and St. Louis, Missouri. Negotiations for lease of warehouses in Toledo, Ohio; San Francisco, California; and Atlanta, Georgia, are being made at the present time.

V. PROFESSIONAL ACTIVITIES

The professional activities incident to the present emergency are primarily concerned with the prevention of disease and adequate medical and surgical care. You gentlemen are quite familiar with such matters. The same high standards characteristic of medical practice in this country must be adhered to in this expansion program. Our own Sanitary Corps and Veterinary Corps are proving extremely valuable in matters pertaining to environmental sanitation, water supply, sewage disposal, anti-malarial work, venereal disease control, and food, meat and milk inspections. Nutritional experts are being used to plan the diet so that most of the men in camps will be fed better and more scientifically than they were at home. This is no small problem since, in all, there will be about 40 camps, posts and stations with military populations ranging from 10,000 men to more than 60,000. To protect the health properly and to afford proper medical care will require the services of many types of specialists. The co-operation of civilian medical agencies is essential to insure the success of this training program.

At the present time the National Research Council with its Division of Medical Sciences is actively functioning in medical preparedness. This is an old establishment, having its origin in 1863, when President Lincoln established the National Academy of Science under a charter from Congress. In 1916 the National Research Council was organized as a control committee of the Academy. President Wilson issued an Executive Order, May 18, 1918, requesting the National Academy to perpetuate the National Research Council.

In the early part of 1940 the surgeon generals of the Army and Navy requested the Division of Medical Sciences of the National Research Council to establish committees which would act in an advisory capacity to the two medical corps. The general function of these advisory committees is to give professional advice, when requested, to the services and to plan and administer research projects essential to the national defense. There are seven main committees, namely:

(1) Committee on Chemotherapeutic and Other Agents
(2) Committee on Transfusions
(3) Committee on Medicine
(4) Committee on Surgery
(5) Committee on Aviation Medicine
(6) Committee on Neuropsychiatry; and
(7) Committee on Information.

Each of the above committees has numerous subcommittees, each concerned with some vital medical problem. Details pertaining to these various committees may be found in the Journal of the American Medical Association, November 9, 1940, Volume 115, pages 1640-1643.

In the last war it was found difficult to assign physicians to duties best suited to them and to the services because of insufficient information as to their capabilities and experience. To obviate this difficulty the Division of Medical Sciences, National Research Council, is working in close co-operation with the Committee on Medical Preparedness of the American Medical Association, in assembling personnel qualification data. This committee is under the chairmanship of Dr. Irwin Abell. At the present time over 180,000 questionnaires have been mailed to American physicians. Information received is coded and transferred to punch cards, so that rosters can be quickly furnished showing medical men according to general and special qualifications and availability to serve in the services from the viewpoint of community need and willingness to serve. This has been a magnificent contribution to national defense.

VI. Conclusion

The present military training program is one of magnitude. It isn't war. It is national defense. The health and medical problems remain much the same, except for battle casualties. It is a challenge to the medical profession of this country. A thorough understanding of this task and a sincere desire to see it accomplished, coupled with the earnest co-operation of the medical profession will not only insure the same high standards of medical practice to the selective service trainees, but will instill in the minds of all the high record for the medical profession of this country, particularly in a national emergency.

Fundamentals to be Observed in the Management of Labor*

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FOR THE LAST eighteen years I have had a part in formulating the policy of the Kansas City Southwest Clinical Society. I think I know something of the efforts necessary to present such a program as you are having at this time. I am certain that your president, your secretary, your officers and your committees have spent the entire year in preparation with the one purpose that the profession of this section of the United States may be better fitted to care for its patients. I am also convinced that this type of postgraduate work is the most efficient and economical that can be offered to a busy profession in so short a time.

In discussing this meeting with Dr. Pride at the American Association of Obstetrics and Gynecology last fall he said that the outstanding men in the various specialties and the outstanding men in the general profession from the surrounding states attended these meetings. I was especially interested in the general practitioner since I had served an apprenticeship of eleven years as a general practitioner. At that time all patients were delivered in the home, little prenatal care was practiced and too often we had not so much as seen a patient before the onset of labor. Needless to say we saw many unnecessary tragedies and being classed as a general practitioner we were subject to criticism that left lasting memories and lasting impressions. From these experiences certain resolutions were made that have been helpful.

We resolved first to teach and practice prenatal care at all times; second, to study the literature and to learn the clinical course of labor as well as our ability would allow; and third to follow fundamentals at all times. The observation of these resolutions I am certain represents the difference between success and failure in many instances. In the last analysis it is not so much our ability to do but rather our ability to know what not to do that determines our success.

Prenatal care has been and is being emphasized by each of you, I am certain. The real crux of prenatal care is to know the patient's ability to give birth to her baby and being willing to wait.

Probably one of our first problems of labor is the expected date. In each case a probable date for the onset of labor is suggested but failure to explain the fallacy of a definite date is our error. The result has been that the philosophy of the overtime and the oversize baby has crept into our literature and into lay magazines. Unfortunately, this philosophy has been expressed so many times through medical and lay magazines that mothers have developed fears that have become problems to you and to me. It seems to me that the fallacy of the expected date must be explained to patients, that the true facts may be known, since the welfare of the expectant mother's baby cannot be estimated by any date, diet or any controlling influence that we know. This is a problem for universal education. Having had some experience in dealing with this problem, I think I can say with authority that the overtime baby is an unknown condition. Well-meaning authorities have advocated the importance of inductions of labor with castor oil, bags, rupturing the membranes and the administration of oxytoxics for overtime and oversize babies, but without exception the pathology produced by these methods has been so definite that men with large clinical experience are now saying—wait, or, rather, are taking the philosophy of the old Negro servant who said, "When an apple is ripe—it falls."

We are called to see a patient in supposed labor. Immediately we are concerned as to whether the patient is in labor or not. Probably after hours of waiting the pains cease or the patient goes to sleep. Then it may be days before we are called again. This group of cases we classify as having false labor. Another type reports that the membranes have ruptured with or without pain and with or without a discharge of any type. We may observe these patients for hours or days and at no time can we determine progress. The psychology of patients, friends, and even the doctor, may be the cause of fear superseding reason. Too often induction procedures are prescribed or practices that again are the cause of unnecessary pathology. How many times have we asked ourselves the question, when is a patient in labor? After a study of 1000 cases based on a number of years of experience I have answered the questions in a way that I believe has been in keeping with your clinical observation. A woman is in true labor when there is evidence of progressive softening, effacement and dilatation of the cervix. You may ask, what about all the hours of distressing symptoms to the patient before the onset of progressive effacement and dilatation of the cervix? To you and to me and to the patient this is labor, quite so, but not true labor.

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For my own satisfaction I have designated these symptoms as the preliminary stage of labor. This I have explained to patients. I also explain to patients the importance of false labor, the preliminary stage of labor and true labor. Again I speak from experience when I say this is a definite period and must be treated as such. The treatment is rest, without the use of any means or method other than waiting except for analgesic drugs to promote rest. Furthermore, we would now suggest four stages of labor: the preliminary stage; the first, second and third stages. And I am certain that the keeping of a careful record of 100 cases by any of you will prove my suggestion.

Another lay epidemic that has been reported in the literature is long labors, difficult labors, labors in which you and I have been condemned for allowing the patient to suffer. I have answered this question to my students, to my residents and to my patients by defining the onset of true labor and by explaining the preliminary stage of labor.

Another type of dystocia is being discussed. that is cervical dystocia. Many Caesarean sections are being done for this reason and yet in 17,000 cases I found only three cases in which the cervix would not dilate. Your problem and my problem is to differentiate between false labor, preliminary labor and true labor.

My general practice taught me two things: First, the patient with a pulse rate below 100 and second, the same patient with a moist tongue is most often in good condition. These observations caused me to reason that, if, from the time a patient started labor until the labor was completed, she had had a pulse rate below 100 the patient usually made an uneventful recovery. While such a pulse rate cannot always be maintained at 100 or less yet the conservative management of labor will be of first importance. We know that fluids, food and rest are necessary for every patient. We also know that exhaustion and dehydration are two of our great problems in long labors. To use a pulse rate of 100 or less and a moist tongue as a clinical index of our patients' well-being, we have adopted a routine that has been most satisfactory. It has been estimated that intake of 2000 cc. of fluids is necessary for maintenance of the water balance of the average patient. Therefore one must keep an accurate estimate of all fluids given. If the patient cannot retain fluids then a glucose solution may be given intravenously as well in the home as in the hospital. A moist tongue must be maintained. The giving of food may be a difficult problem. However, when from 1000 to 2500 calories of food are given exhaustion is greatly lessened.

Equally important is rest. The question of sedation is so big that time does not permit a discussion of this subject. However, we know that morphine judiciously used is our greatest drug in producing rest. Your own experiences with other drugs may be equally as important and your results may be equally as good or better. Yet I think each of you will agree that morphine judiciously used is one of the best if not the best drug to produce rest. Your knowledge of drugs, your knowledge of your patients and the necessity of safety at all times convinces you, I am certain, of the importance of the pulse rate, the moist tongue, and the necessity of food, fluids and rest in the successful management of labor under all conditions.

Those who have not done general practice cannot appreciate the public's estimate of one doing general practice nor his problems in competing with specialists. Many cases are unnecessarily lost to those doing general practice. Today, probably, the greatest problem confronting those doing general practice is pain, or painless labors. May I say from experience that painless labors are seldom seen. There are few primipara that do not have from four to ten hours of preliminary labor. This stage is so sensitive, that pain, so necessary to progress, is definitely interfered with or stopped, by usage of drugs. In all the literature the dictum is to relieve pain completely when there is evidence of from four cm. to six cm. dilatation or when dilatation is progressive. Furthermore, our lay magazines that have immortalized painless labor will soon be condemning the same methods they have commended. The fundamental I would suggest, is relief of pain in keeping with the safety of the mother and her unborn baby.

In our management of labor, we know that the judicious management of each stage of labor determines the success of the subsequent stage of labor and finally, we hope, produces a normal delivery. Hours of pain with little or no dilatation not only are conducive to dehydration and exhaustion but are and have been the cause of too much unnecessary interference. Probably one of the most common pitfalls is artificially rupturing the membranes. It is true that often the successful termination of labor may depend upon this procedure yet one cannot eliminate the fact that the membranes serve as a protection to both the mother and her unborn child. Infections to the mother and prolapsed cords or prolapsed extremities in the baby are our complications, and I know I am justified in saying that the pathology produced more than offsets the good results seen. In all cases the position of the baby and the station of the head determine the efficiency of the contractions since flexion and extension is so important to the progress of each patient. This fact is too often forgotten. I dare say that each of us estimates progress from dilatation of the cervix. Probably too often we neglect to determine the direction of the sagittal suture or our best clinical aid, the position of the anterior fontanelle, which is our guide both to position and flexion.

I would not in any way underestimate the importance of the cervix in labor, but would urge the importance of appreciating these factors mentioned since they have such an important bearing on not only the dilatation of the cervix but on cervical damage.

With complete flexion the force of a contraction is distributed equally to all parts of the cervix. No œdema is felt in any part of the cervical circle and damage is rare. With extension, œdema or thickening of the cervix is felt in keeping with the position of the head. How often in posterior positions do we see varying degrees of œdema of the anterior lip of the cervix? The same is true in the delayed transverse position with lateral cervical thickening or œdema. Needless to say we find our tears in the thinned areas of the cervix. With this information one should establish a watchful waiting attitude, since any voluntary force on the part of the patient, before complete dilatation, is useless as to progress, and is conducive to cervical damage. Even today we see a few physicians who still have their patients bear down in an attempt to hasten the dilatation of the cervix. One of my associates observed that with complete dilatation contractions seemed to be more effective and if he then had patients use their accessory forces most often the patient delivered normally. He also states that with the beginning of dilatation there are changes in the character of pains that make sedation more successful. We are now teaching our patients the importance of appreciating the changes in the character of contractions in these two stages of labor, which has been of importance in our management. The fundamental is not at any time to interfere mechanically with the dilatation of the cervix without definite indications, and at no time to allow the patient to use her own forces before complete dilatation. I am familiar with the fact that some cervices may dilate faster and some patients may assist dilatation, but I am also familiar with my own after results—failure of both primary and secondary repairs of the cervix and both mild and severe pelvic infections from cervical damage. Manual dilatation was practiced in years past, and I am not so certain that in rare well-selected cases it may be indicated now. However, like overtime babies and large babies the condition is very rare. Cervical incisions are now being advocated and yet the end results make us often question the procedure. Time and management will most often solve the problem in a way that is certainly for the best interest of the patient's future pelvic health. Our best edict is to touch not and handle not the cervix, insofar as it can be avoided.

DELIVERY PERIOD. One's attitude toward the delivery and one's ability most often determine final results. In the University of Kansas Hospital and the Kansas City General Hospital where about 1800 babies are born each year, the instance of interference is less than 10%, also interesting to note in 10,000 cases in the Kansas City General Hospital the instance of Caesarean section is about 1.25%. In the University of Kansas Hospital the instance will be higher because of the large numbers of pathological cases sent in for delivery. In some of our private hospitals the instance of Caesarean section is 1 to 20. In some private hospitals the outlet or low forceps philosophy brings the instance of interference to not less than 50% to 60% in all cases. Another interesting factor is that our釘 internes and residents seldom do an episiotomy because of their ability to wait, while in some private hospitals the routine episiotomy appears. The report that I have from many of our former graduates and internes is, that without help and without facilities to do routine forceps and episiotomies, they are compelled to rely on sedation and open drop ether anaesthetics and that their patients then deliver normally without forceps or episiotomies. This causes us to think seriously of the problem of deliveries in the home and in the hospital. Do our hospital conveniences give us special privileges or more safety to mothers? Frequently in our private work we assure ourselves that our private patients are different. Are they? Another philosophy that is prevalent is that unless an episiotomy is done the patient will have a relaxed perineum, a cystocele, rectocele or all three. This philosophy has not held true in 2000 private cases examined at two months, four months and six months post partum. Also it has been interesting to note that in those cases delivered normally without damage, or those in which repair had been done, the results were the same if my post partum care was in keeping with the condition of the patient. The point is, all fascial damage must be repaired at delivery and all patients kept under observation after delivery until such time as the patient is well. I would not in any way underestimate the value of outlet forceps or an indicated episiotomy but may I ask are we not sacrificing skill for speed? Or are we being led away by the opportunist? Our graduates are well trained in their fundamentals. Our older men often have learned from hard experience. Yet, I fear we as specialists or those of us with hospital association are not practicing what we have been taught or what we have been teaching. The accusing factor in this problem is the fact that the majority of maternal deaths are associated with some form of interference.

Here in Tennessee you seem to have one of the best maternal welfare organizations in the United States, and I am certain that those who have to do with this work will bear me out in the statement. I am also certain that these same officials will advocate this policy, namely: that of recognizing our own limitations as to our ability and the situation as we find it, in the home or in the hospital. The crux of the whole question is the interest of the patient. Lack of facilities, economic problems and at times errors in judgment may excuse results. Such conditions must be met by the county, state or government if we are to better our maternal death rate. When we know that few unfortunate after results are seen in normal deliveries, as compared with deliveries in which interference has occurred, only one conclusion must follow: Well managed labors with normal deliveries with as little pelvic damage as possible offers the greatest safety for our mothers. Interference is both life and health saving at times. However, because I may possess unusual skill does not warrant any routine in any patient. I maintain that the physician or specialist who has slowly and carefully managed a normal delivery with little or no damage has shown far superior skill to the one who has done a Caesarean section or even a routine forceps delivery. I frequently tell my graduates and former internes that they are most fortunate that they haven't the facilities to do routine forceps and routine episiotomies and that their patients are most fortunate. I understand thoroughly that this philosophy is and will be considered a senile manifestation. I extended sympathy to my seniors in previous years and naturally will receive my share, yet I only hope that those with whom I have the honor to visit will keep careful records and that you will teach your patients to come back for post partum examination at two months, four months and six months and that you will from time to time chart your results. If you will, senility will become infantile as to the philosophy you will advocate. A better knowledge of the management of labor will result, and the old football slogan of pray, pass and punt will stand forth vindicated.

How often are we pleased when the baby

is born and cries lustily, and how often are we pleased to examine and find no cervical damage and little or no perineal damage. We are lulled to sleep with our success. Little do we realize that probably we are facing the most dangerous period of labor—the third stage of labor. I am not so certain but that it is then we should bring up all our forces, since bleeding and hemorrhage have more to do with morbidity and mortality than all the pathology of the other stages of labor. Several years ago the Kansas City Obstetrical and Gynecological Society established a routine technique for the several hospitals in Kansas City. Pans were placed in the pack that all blood that was lost during the third stage could be accurately measured. It was agreed that a blood loss of 250 cc. should be the maximum normal loss, that from 250 cc. to 500 cc. loss of blood should be estimated as an unnecessary loss and that 500 cc. loss or more would be classed as a hemorrhage Again, each hospital kept a record of each birth that included the measured loss of blood and estimated loss of blood. It has been most encouraging to see the change in our hospital records as to the loss of blood and also to see the better management of the third stage of labor. Our group then became conscious of the inaccuracy of estimated blood loss, so much so that they are making an effort to eliminate estimated loss of blood by a more careful catching of blood loss in a pan and accurately measuring after the patient has been put back to bed. We also found that by leaving the patient on the table for several minutes after delivery with a warm blanket around her and allowing her to become completely awake that the uterus remained contracted and vomiting was avoided, thus preventing uterine relaxation and bleeding. Two points should be stressed. First all blood loss should be accurately measured in all cases, and second no patient in the home or hospital should be left alone until such a time as one is certain of complete and continuous contractions of the uterus. The accepted time limit for this is one hour.

Numerous methods have been advocated for the management of the third stage of labor. It has been interesting to me to review comparative cases that have delivered in the home and in the hospital before the doctor arrived, especially those in which the placenta was delivered. I cannot recall a patient that had a very severe tear or a patient that had an alarming loss of blood. One can only conclude that there is a definite physiology that has to do with the delivery of the placenta. It also leads us to conclude that the least management a patient has the better the results. I am certain that, in the vast majority of cases of post partum partial separation of the placenta that I have had or seen, I could find a definite cause from giving oxytoxics or unnecessary manipulation of the uterus. True, there are always exceptions to a rule, yet I personally can trace cases of unnecessary loss of blood to oxytoxics or a nervous hand.

There will be a certain percentage of tubal pregnancies that will be lost and also a certain percentage of placenta praeviae and abruptio placenta cases that will be lost. However, I question whether a patient should be lost from hemorrhage if the third stage of labor is anticipated and properly managed. Personally, I know of no greater self evaluation that can be obtained in your management of the third stage of labor than by accurately measuring all blood lost, and keeping a record in each case that results may be evaluated. One may measure very accurately all blood loss collected in a vessel, yet too often the estimated loss far exceeds the measured blood loss. Our point is to measure all blood loss. Again too often we leave the patient too soon after delivery, only to be called back to find a patient in shock from visible blood loss or with an overdistended uterus from blood loss. Such conditions can be avoided. With all the prophylactics mentioned, there remains a treatment that is life saving and that is giving a transfusion or sufficient transfusions to compensate for all blood loss. In this connection I can but repeat a dictum of Dr. Litzenberg—every physician caring for women in labor may know what to do, but training and experience should teach the profession to know what not to do.

As we survey obstetrics over the last 35 years, we acclaim the fact that obstetrics has reached a new height; that our problems have been solved; that women are now living in an Utopian age. I recall a statement made years ago by an old general practitioner who had at that time the record of delivering more women than any other man in our city. At our county medical society a symposium was held on the management of labor. I recall the praise and acclaim our group received for the valuable new information that was presented to the profession of Kansas City for the care of women. We examined specimens of urine at times, we used rubber gloves, we gave chloroform and draped our patients with clean towels. Several had heard that the foetal heart could be heard and counted, and several still doubted that bacteria could cause childbed fever. During all the discussion our old friend said nothing. Finally, one of our group, in respect for his advancing years, asked him if he would say a word. His words have been echoing to me through the years. He said that he was asked on his final examination to discuss the management of labor. He then said, "I told the Prof, I tied the cord; and I got perfect on my examination," and sat down.

When I look over records of hospitals, and find one case in 20 a Caesarean section; when I find 50% to 60% interference in deliveries; when I read routine inductions of labor, and the many methods for it that are being taught even by our medical schools, I again hear the echo of the good old forgotten doctor, whose record for deliveries has probably never been equalled in Kansas City, who said, "I tied the cord." Over our pipe, before our fireplace, would we not do well to visit a few evenings with Holmes, Williams, DeLee, Litzenberg, Schwarz and some of the other notables, who defined fundamentals from years of large experience and again listen to what they have said about the safety of childbirth? Do we recall one of those who said that labor was other than a physiological process? Then may we not in our minds frankly ask ourselves the one question: If fundamentals are observed do we produce pathology? The good, safe obstetrician is that member of the profession, be he specialist or general practitioner, who knows what not to do.

In conclusion may I offer my resolution of 35 years ago: To practice and teach prenatal care at all times, to study the literature and the clinical course of labor as best we can, and lastly to follow fundamentals at all times.

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Ante Partum Hemorrhage*

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SINCE PREMATURE separation of the normally situated placenta and placenta praevia account for approximately six per cent of all maternal mortality attributable to childbirth, it seems worth while to review these conditions in the hope that needless loss of life may be prevented.

PREMATURE SEPARATION OF THE PLACENTA

The Maternal Welfare Committee of the Philadelphia County Medical Society was organized in 1931 to review all the maternal deaths in the city in order that errors in management might be brought to light and means of correction be suggested. The record of each fatal case is studied and after consideration of all available information, the death is classified as preventable or non-preventable. During its first eight years the Committee reviewed 1349 maternal deaths, of which 31 were due primarily to premature separation of the placenta.

TABLE I

DATA ON PREMATURE SEPARATION OF THE PLACENTA

Philadelphia, 1931-1938 (inclusive)

Total number of live births	254.975	
Estimated number of cases of premature separation (1 in 300) ...	849	100%
Deaths from premature separation ...	31	3.7%
Total number of maternal deaths	1,349	100%
Deaths from premature separation ..	31	2.3%

The recorded incidence of premature separation of the placenta in the obstetrical literature varies from one in about 150 cases in large maternity hospitals to which complicated cases are referred, to one in approximately 1,000 cases in private practice in unusually healthy communities. It is generally agreed, however, that this difficulty arises once in every 300 cases on a general average.

TABLE II

PREVENTABILITY OF DEATHS FROM PREMATURE SEPARATION

	Deaths	Per Cent
Preventable	14	45%
Non-preventable	17	55%

Of the thirty-one deaths occurring in Philadelphia, the Committee concluded that seventeen were non-preventable. The patients in this group had received adequate prenatal care, proper precautionary measures had been observed, and prompt treatment had been instituted on the appearance of symptoms.

TABLE III

ASSIGNMENT OF RESPONSIBILITY IN PREVENTABLE DEATHS

	Deaths	Per Cent
Physician's responsibility	8	57%
Patient's responsibility	6	43%

Our chief interest is centered upon the fourteen patients whose deaths were considered to have been preventable. In six instances the **patient** was blamed for the fatality, chiefly because of failure to avail herself of prenatal care and failure to apply for treatment on the first appearance of symptoms.

In eight cases the physician was held responsible for the fatal outcome. A brief summary of these cases follows:

SUMMARY OF FATAL CASES OF PREMATURE SEPARATION

1. Toxic patient bled 4 days. Significance not recognized. Then profuse hemorrhage. Caesarean. Died of shock.
   Error: Failure of early recognition.
2. Toxic patient—profuse hemorrhage in labor. Cervix only 3 fingers dilated. Manual dilatation of the cervix, version and extraction in eight minutes. Died of shock and hemorrhage.
   Error: Accouchement force.
3. Signs of abruptio not recognized for 24 hours. Then hemorrhage. Caesarean. Died of shock.
   Error: Failure of early recognition and delay of treatment.
4. Signs of abruptio in labor. No toxemia. Delay of 55 minutes in delivery by manual dilatation, failed forceps, then version and extraction.
   Error: Accouchement force.
5. Non-toxic patient. Slight bleeding from abruptio for 5 days. Vaginal delivery. Post-

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*Read before the fifty-sixth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 11-14.

partum hemorrhage. Inadequate pack. Died of shock and hemorrhage.
Error: Failure of early recognition.

6. Toxic patient with 4+ albumin. Sent home. Returned same day with bleeding. $\frac{1}{2}$ cc. pituitrin given. Shock. Caesarean. Died of hemorrhage.
   Errors: (1) Failure of early recognition in presence of toxemia; (2) Pituitrin; (3) Operating on patient in shock.
7. Toxic patient. Signs of abruptio unrecognized for 2 hours. Shock. Caesarean. Died of hemorrhage.
   Errors: (1) Delay in treatment; (2) Operating on patient in shock.
8. Toxic patient. Signs of abruptio unrecognized at 8 months. Hemorrhage at 8$\frac{1}{2}$ months. Caesarean. Death 6 days later. "Myocardial failure."
   Errors: (1) Failure of recognition of significance of bleeding in toxic patient; (2) Operating on patient in shock.

The errors in management of these cases may be summarized as follows: failure of the physician to recognize the significance of typical symptoms, delay of treatment after onset of symptoms, operating on patients while in shock, accouchement force.

The following section deals with a survey of the cases of premature separation of the normally situated placenta occurring in the Philadelphia Lying-In Hospital during the ten-year period of 1931 to 1940, inclusive. Cases presenting this complication prior to the twenty-eighth week of pregnancy have been excluded from the study.

TABLE IV

INCIDENCE OF PREMATURE SEPARATION OF THE PLACENTA

Philadelphia Lying-In, 1931-1940 (inclusive)

Total number of deliveries	22,493
Number of cases of abruptio	74
Incidences of abruptio	1 in 304

The wide variation of the recorded incidence of abruption or ablation of the placenta can, in large measure, be accounted for by the criteria which one establishes for the inclusion of cases in any reported cases in which there was no clinical evidence of separation, thereby eliminating an almost equal number of cases in which the condition was recognized only after delivery of the placenta by the discovery of small retroplacental clots or minute organized areas of separated placental tissue. The group of 74 cases is composed therefore only of those presenting one or more of the following typical clinical manifestations of placental separation; continuous uterine pain. tenseness and tenderness of the uterus, evidence of intra-uterine hemorrhage, or frank external bleeding.

TABLE V

ETIOLOGICAL FACTORS

Toxemia of Late Pregnancy	32	43%
Unknown	42	57%
Total	74	100%

Hypertension and albuminuria were found in almost half of the entire group, one patient had acute yellow atrophy of the liver proved at necropsy, and in many of those in which the etiology is recorded as unknown, rather typical symptoms strongly suggested the presence of toxemia. A pre-existing hypertension is often masked by the fall in blood pressure incident to hemorrhage. A definite history of trauma was elicited in only one instance; in this patient the co-existence of a definite toxemia was a more likely cause of the separation.

The high incidence of toxemia in cases of premature separation and the greatly increased frequency of placental abruption among patients suffering with toxemia, leads one inevitably to the conclusion that the toxin, whatever it may be, destroys the integrity of the placental vessels and is responsible for the retroplacental hemorrhage.

TABLE VI

TIME OF OCCURRENCE OF ABRUPTIO

	Cases	Per Cent
Before Labor	34	46%
During Labor	40	54%

The fact that a large number of abruptions of the placenta occur during labor is strong evidence that trauma of the placenta incident to firm uterine contractions plays an important role in the mechanics of the separation. A further proof of this point is the high incidence of placental separation following the injudicious use of pituitrin. Naturally the unhealthy placenta of the toxic patient is more easily and therefore more frequently dislodged than that of the normal patient.

TABLE VII

SEVERITY OF CASES OF ABRUPTIO

Mild	26
Moderate	24
Severe	24

The mild cases are those occurring, almost without exception, during labor, manifested by somewhat more than usual bleeding, some increase in uterine tension and occasional evidences of slight or moderate foetal distress. Rarely is it necessary to alter the conduct of the labor in such cases. The physician, however, should be in constant attendance as one can never be sure that the area of separation will remain inconsequential in size. In this group there were no maternal deaths and all the babies weighing 4 pounds or more were saved.

The moderate and severe cases were those in which there were constitutional or actual evidences of loss of a large amount of blood.

TABLE VIII

METHOD OF DELIVERY IN ABRUPTIO
1931-1940

		Cases	Per Cent
Vaginal Delivery		44	59%
Forceps	22		
Spontaneous	14		
Podalic Version	5		
Breech Extraction	3		
Abdominal Delivery		30	41%
Caesarean Section	27		
Porro Caesarean	3		
Total Number of Cases		74	100%

The choice of treatment for cases of abruptio is dependent upon several factors chief among which are the severity of the symptoms, the general condition of the patient, the degree of cervical dilatation, whether or not the patient is in labor, and the presence of toxemia. As previously stated, in dealing with the milder degrees of separation occurring in the course of labor, in which both the mother and the baby present no evidence of distress, it is rarely necessary to alter the conduct of labor. This is evidenced by the fact that of the thirty-nine patients with mild or moderate degrees of separation who were delivered by forceps, simple breech extraction or spontaneously, only one patient died; in this case acute yellow atrophy was primarily responsible for death. As seen in the following table seven-eighths of the patients whose abruption occurred during labor were delivered vaginally.

TABLE IX

METHOD OF DELIVERY ACCORDING
TO ONSET OF LABOR

	Cases	Per Cent
Abruptio during labor	40	
Caesarean Section	5	12.5%
Vaginal Delivery	35	87.5%
Abruptio before labor	34	
Caesarean Section	25	74. %
Vaginal Delivery	9	26. %

On the other hand, the more urgent cases, because of extreme loss of blood and shock require that the uterus be emptied by the quickest method compatible with safety to the mother. Not until the uterus is empty can firm contraction of the uterus close the bleeding sinuses of the placental site. This point is borne out by the fact that in eleven of the thirteen fatal cases herein reported continuing hemorrhage before delivery was largely responsible for death of the patient.

If, therefore, there is evidence that the separation is of major degree and if the patient cannot be immediately delivered by simple measures from below, we feel that Caesarean section is the treatment of choice. In the more severe cases Caesarean section is done in the interest of the mother even though the child is dead.

TABLE X

MATERNAL MORTALITY FROM ABRUPTIO
1931-1940

	Number	Per Cent
Total number of deliveries	22,493	
Total number of maternal deaths	98	0.44%
Number of cases of abruptio	74	
Number of maternal deaths from abruptio	5	6.7 %

TABLE XI

MATERNAL MORTALITY ACCORDING TO
METHOD OF DELIVERY
1931-1940

Vaginal Delivery	4 deaths in 44 cases	9.9%
Spontaneous	0 death in 14 cases	
Forceps	1 death in 22 cases	
Breech Extraction	0 death in 3 cases	
Podalic Version	3 deaths in 5 cases	
Caesarean Section	1 death in 30 cases	3.3%
Caesarean only	1 death in 27 cases	
Porro Caesarean	0 death in 3 cases	
Total Maternal Mortality	5 deaths in 74 cases	6.7%

As seen in Table XI three of the four deaths among those patients delivered vaginally followed podalic version. In two of these the version was preceded by manual dilatation and in the third, version was unwisely chosen for delivery of an eleven-pound child. In each instance the procedure was carried out in patients who were in shock and resulted in rupture of the lower uterine segment. The occurrence of these catastrophes, all prior to 1934, convinced us that, because of the increased friability of the uterus incident to intramuscular extravasation of blood in cases of abruptio, and because of the tetanic contracture of the uterus so typical of this condition, manual dilatation of the cervix and podalic version have little if any place in the treatment of premature separation of the placenta. Since 1934 only one podalic version has been performed and that for delivery of a small premature infant through a completely dilated cervix.

At the same time we instituted the policy of treating these patients for shock and replacing loss of blood before instituting any procedure for delivery. Unless the patient can be delivered by simple forceps or breech extraction through a completely dilated cervix, Caesarean section is elected in every urgent case.

The following tables, therefore, show our results for the seven-year period subsequent to this change of policy, and more accurately represent our present ideas concerning the treatment of this complication.

TABLE XII

METHOD OF DELIVERY IN ABRUPTIO

1934-1940 (inclusive)

		Cases	Per Cent
Vaginal Delivery		26	50%
Forceps	15		
Spontaneous	10		
Version	1		
Caesarean Section		26	50%
Caesarean only	23		
Porro Cesarean	3		

TABLE XIII

MATERNAL MORTALITY ACCORDING TO METHOD OF DELIVERY

Abruption, 1934-1940 (inclusive)

Vaginal Delivery	1 death in 26 cases (acute yellow atrophy)	3.8%
Caesarean Section	0 death in 26 cases	0.0%
Total Maternal Mortality		1.9%

Removal of the uterus was deemed advisable in but three of the 30 patients who were treated by Caesarean section. We do not remove the uterus simply because of its darkened appearance from extravasation of blood, but only if it fails to contract well following its evacuation. There was no fatality incident to this procedure.

Following delivery, careful attention must be given to the likelihood of postpartum hemorrhage. Many of these uteri fail to remain firmly contracted and a relatively small amount of bleeding will be poorly tolerated by the patient who has already suffered a considerable loss of blood. Firm packing of the uterus and vagina is urgently indicated on the least provocation, as is also the intravenous administration of $\frac{1}{2}$ cc. of pituitrin or some other equally effective oxytoxic drug.

TABLE XIV

FOETAL MORTALITY FROM ABRUPTIO

1931-1940

Total number of cases of abruptio	74
Total number of foetal deaths	34 — 46%

Since fully one-fourth of the babies were dead in utero, at the time of admission to the hospital and since eleven of the babies weighed less than 4 pounds, the total mortality rate of 46% is better than had been anticipated. There is no doubt, however, that this could be substantially reduced by more prompt recognition of the significance of the symptoms on the part of both patient and physician.

During the past seven years, since the abandonment of forcible methods of delivery, and the increased utilization of Caesarean section in the more severe cases, the total uncorrected foetal mortality has decreased to 38.4%.

The following are brief summaries of the five fatal cases of abruptio placentae from the Philadelphia Lying-In Hospital series:

1. Toxic patient, registered late in pregnancy. At first refused admission to hospital for treatment. Admitted 2 weeks before delivery at seventh month of pregnancy because of hypertension and albuminuria. First error was that labor was not induced earlier in the presence of severe pre-eclamptic toxemia. Had signs of mild abruptio at onset of labor. Shock supervened suddenly 5 hours later, when cervix was 3 fingers dilated. Error made in manual dilatation, version and extraction which resulted in rupture of the uterus. Death from shock and hemorrhage despite infusions and transfusion of blood.
   Errors: (1) Delay in induction of labor; (2) Failure to empty uterus on first appearance of signs of abruptio; (3) Accouchement force.
2. Toxic patient, admitted with signs of abruptio. Conservative treatment elected. Four hours later in shock. Not in labor. Two and a half hours later Caesarean section. Child stillborn. Placenta completely separated. Transfusion. Wound disruption on sixth postoperative day. Died of peritonitis on twelfth postoperative day.
   Error: (1) Failure to empty the uterus

before depletion of the patient's resistance.

3. Non-toxic nulliparous patient had signs of abruptio with free bleeding 18 hours after onset of labor. Cervix only three fingers dilated. Conservative treatment elected. Five hours later profuse bleeding returned and with the cervix ¾ dilated, manual dilatation, version and extraction resulted in a deep tear of the cervix. Patient died of shock and hemorrhage two hours later.
   Errors: (1) Failure to empty uterus earlier. (2) Accouchement force.
4. Non-toxic obese patient (240 lbs.) had more bleeding than usual throughout thirty-one hours of irregular labor. (The foetal heart sounds had disappeared after 24 hours of labor). Then went into shock and had profuse bleeding. The cervix was effaced and almost completely dilated. Infusion of salt solution given. Difficult version and extraction of an eleven-pound stillborn child resulted in rupture of the uterus. Pan-hysterectomy performed 30 minutes later. Patient failed to react well and died 32 hours after delivery.
   Errors: (1) Failure to recognize the significance of free bleeding in labor associated with disappearance of the foetal heart sounds. (2) Error of judgment in electing version for oversized child.
5. Toxic patient (later proved case of acute yellow atrophy) had profuse bleeding and signs of abruptio at the eighth month about four hours after the onset of labor. Was delivered of a six-pound stillborn child by high forceps. Free postpartum bleeding continued despite packing of the uterus and vagina. Transfusions of 2250 cc. blood and several infusions of glucose given. Patient died of acute yellow atrophy of the liver. (Autopsy).
   Death considered as non-preventable.

This review of these two series of cases of premature separation of the placenta will, I believe, establish the following principles concerning this complication:

1. Since toxemia of pregnancy is known to be a potent etiological factor in at least half of these cases, intelligent prenatal care offers much in the way of prevention of abruptio.

2. Recognition of the especial danger of abruptio in every patient with hypertension will result in the precaution of not allowing such patients to be more than thirty minutes away from expert obstetrical care.

3. Early recognition of the significance of ante partum hemorrhage will make for early diagnosis and prompt treatment.

4. In the decision to delay interruption of pregnancy of toxemic patients until the time of greater viability of the child, consideration must be given to the likelihood of premature separation.

5. If the case be one of mild degree the conduct of labor may be unaltered except for increased vigilance on the part of the attendant.

6. In the more severe cases the best interests of both mother and baby are served by as prompt evacuation of the uterus as is compatible with safety.

7. Manual dilatation of the cervix and other traumatic procedures for delivery, while occasionally necessary as emergency measures, have no place in the elective treatment of abruptio.

8. Treatment for shock and replacement of blood loss before instituting measures for delivery will greatly decrease the operative risk.

9. Prompt replacement of blood loss following delivery decreases not only the immediate danger but also lessens the incidence of puerperal infection.

The problem of dealing with a case of premature separation of the placenta in a private home is, indeed, a tedious one under any condition. If the separation be one of mild or moderate severity a policy of constant vigilance without interference, fortunately, usually results in a happy termination for the mother and often the child.

In dealing with the case of severe degree the outlook for the child must be almost totally ignored and the prospect of survival of the mother is extremely problematic. On the other hand, the series of conservatively treated cases recently reported by Irving of the Boston Lying-In Hospital, is encouraging to the physicians who may encounter this complication in a private home. Since 1931 Irving has treated 26 cases of internal hemorrhage by the insertion of a tight cervical and vaginal pack, the application of a Spanish windlass abdominal binder, and awaiting spontaneous delivery. Following this procedure, only one of the twenty-six patients died. He reports an additional group of eight successfully treated patients who presented this complication during active labor and who were left strictly alone except for rupture of the membranes in one case. The maternal mortality, however, was 88.1%.

PLACENTA PRAEVIA

From 1931 to 1938 the Committee on Maternal Welfare of the Philadelphia County Medical Society reviewed 1,349 maternal deaths, of which 39 (or 3%) were due to placenta praevia.

TABLE XV

DATA ON PLACENTA PRAEVIA FOR PHILADELPHIA COUNTY, 1931-1938, INCLUSIVE

Total number of live births	254,975	
Estimated number of cases of placenta praevia (1 in 300)	849	100%
Deaths from placenta praevia	39	4.6%
Total number of maternal deaths	1,349	100%
Deaths from placenta praevia	39	3%

Because we believe that most deaths from this condition are preventable, the histories of these thirty-nine patients were studied to discover the sequence of events which ended in death. One-third of the patients received good prenatal care, prompt attention when symptoms appeared, and, in spite of intelligent treatment, died. Their deaths were classified as non-preventable. Our chief interest, however, was centered upon the larger group who for various reasons received inadequate or improper treatment and whose deaths therefore are considered preventable.

TABLE XVI

PREVENTABILITY OF DEATHS FROM PLACENTA PRAEVIA

	Deaths	Per Cent
Preventable	26	67%
Non-preventable	13	33%

Failure to seek prenatal care, ignorance of the importance of reporting bleeding in pregnancy, and refusal to accept the treatment advised were the common errors attributed to the patients.

TABLE XVII

ASSIGNMENT OF RESPONSIBILITY IN PREVENTABLE DEATHS

	Deaths	Per Cent
Physician's responsibility	18	70%
Patient's responsibility	8	30%

The most common error on the part of the physician was failure to institute adequate treatment in the presence of bleeding. Three-fourths of the patients who died did not receive a transfusion. In three instances the physician failed to hospitalize patients who were bleeding profusely. In three cases the condition was not recognized despite typical histories. Three deaths were attributed to manual dilatation of the cervix followed by traumatic delivery.

The following section consists of a study of our experience with cases of placenta praevia at the Philadelphia Lying-In Hospital from 1931 to 1939.

TABLE XVIII

INCIDENCE IN PLACENTA PRAEVIA

Philadelphia Lying-In Hospital 1931-1939 (inclusive)

Total number of deliveries	20,476
Number of cases of placenta praevia	73
Incidence of placenta praevia	1 in 280

Here, again, as in premature separation of the placenta, the recorded incidence of placenta praevia varies with the criteria which one sets up for inclusion of cases in any given series. We have included in this survey only those cases occurring beyond the twenty-eighth week of pregnancy in which the diagnosis was definitely established by either feeling the placenta through the cervix or confirming its low attachment at the time of Caesarean section. By these strict criteria a large number of cases of mild painless bleeding were eliminated even though it is quite likely that a low implantation of the placenta existed in these cases.

TABLE XIX

TYPES OF PLACENTA PRAEVIA

	Number	Per Cent
Lateral	9	12.3%
Marginal	39	53.4%
Central	16	21.9%
Not stated	9	12.3%

As seen in the foregoing table, the marginal type, in which the placenta covered only a portion of the internal os, was most frequently encountered. Next in order of frequency was the central and, least often, the lateral.

TABLE XX

METHODS OF DELIVERY IN PLACENTA PRAEVIA

		Cases	Per Cent
Vaginal Delivery		17	23.2%
Forceps	5		
Spontaneous	4		
Version and Extraction	5		
Breech Extraction	1		
Embryotomy	1		
Braxton-Hicks Version	1		
Caesarean Section		54	73.9%
Died undelivered		2	2.7%

The choice of treatment in any given case of placenta praevia is dependent upon the following factors: the severity of the case, the degree of shock, the location of the placenta, the viability of the child, its presentation, and, most important of all, the amount of cervical dilatation.

If the bleeding occurs during labor, and the placenta is marginal or lateral and the presentation is polar, rupture of the membranes will most often allow the presenting part to make sufficient pressure on the separated placenta to control the bleeding. In such instances we allow the labor to proceed to spontaneous delivery or to a low forceps application.

If the cervix is completely dilated, version and extraction is the procedure of choice in all but the central type of implantation. Because of the potent danger of deep laceration of the cervix extending into the placental site we feel that manual dilatation of the cervix is strictly contraindicated.

Braxton Hicks version, while occasionally a life saving measure for the mother under emergency conditions, is, we believe, best reserved only for those cases of marginal and lateral placenta praevia in which the child is dead or not viable.

By following these general principles we were able to deliver seventeen of our patients by the vaginal route, with no maternal mortality.

In fifty-four (74%) of our cases Caesarean section was performed. If the bleeding is profuse and the cervix is closed, we feel that the interests of both the mother and child are best served by this procedure. Regardless of the amount of cervical dilatation, Caesarean section is done in practically every case of central placenta praevia and in most instances of malpresentation.

TABLE XXI

MATERNAL MORTALITY FROM PLACENTA PRAEVIA 1931-1939

Total number of deliveries	20,476
Total number of maternal deaths	96
Number of cases of placenta praevia	73
Number of maternal deaths from placenta praevia	5-6.9%

TABLE XXII

MATERNAL MORTALITY ACCORDING TO METHOD OF DELIVERY 1931-1939

(Placenta Praevia)

			Per Cent of Mortality
Vaginal Delivery	0 death	in 17 cases	0.0%
Caesarean Section	3 deaths	in 54 cases	5.8%
Undelivered	2 deaths	in 2 cases	100%
Total Maternal Mortality	5 deaths	in 73 cases	6.9%

As seen in the above table, there were no deaths among the seventeen patients in whom the amount of cervical dilatation and other favorable factors permitted vaginal delivery. Unfortunately, a relatively small number were found amenable to such simple measures.

Two patients died undelivered. One, a patient with free bleeding from a marginally implanted placenta, died of suffocation from the aspiration of vomitus while being anesthetized for Caesarean section. The other was in such profound shock due to hemorrhage from a central placenta praevia that she did not respond to repeated infusions and a transfusion of whole blood. She died before she could be delivered.

Three patients died following Caesarean section:

1. The patient had profuse bleeding in early labor. Was treated for shock prior to Caesarean section. Died of peritonitis on sixth postoperative day.
   Note: Replacement of blood loss by transfusion following delivery might have obviated the infection.
2. Caesarean section for central placenta praevia. Bleeding not profuse. Not in shock. Patient obese (232 lbs.) died of bronchopneumonia on fifth postoperative day. Baby lived.
3. Patient with history of slight painless bleeding for six weeks had medical induction of labor, including three minims of pitocin. Immediately began to bleed steadily but not profusely. Caesarean section done because of marginal placenta with only 2 fingers dilatation. Profuse hemorrhage during anesthesia. Baby lived. Mother failed to react to infusion during and tranfusion after operation. Died of shock and hemorrhage 1½ hours later.
   Error: Use of pituitrin in obvious case of placenta praevia.

TABLE XXIII

FOETAL MORTALITY* ACCORDING TO METHOD OF DELIVERY

(Placenta Praevia)

			Per Cent of Mortality
Vaginal Delivery	6 deaths	in 17 cases	35%
Caesarean Section	12 deaths	in 54 cases	22%
Undelivered	2 deaths	in 2 cases	100%
Total Foetal Mortality	20 deaths	in 73 cases	27%

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*Gross

Intra-uterine asphyxia was presumably responsible for eleven foetal deaths and was, no doubt, a contributory cause in all of them. Prematurity was the next most frequent factor as six of the twenty babies who died weighed less than four pounds.

Review of these statistical data and accumulated experience forcefully bring to light certain undeniable principles in the management of placenta praevia.

1. Painless bleeding, particularly in the last trimester of pregnancy, must be considered as due to placenta praevia until proved otherwise.

2. Immediate hospitalization is imperative on the first appearance of bleeding. The first bleeding is seldom profuse, but it should serve as the warning that more profuse and often fatal hemorrhage will follow. If this warning be heeded, rarely will one have the unfortunate necessity of treating a serious case of placenta praevia in the home of the patient who is bleeding too profusely to transfer to a hospital.

3. Accurate diagnosis is essential to intelligent treatment. A cautiously performed vaginal examination will occasionally reveal that the bleeding is due to a cervical polyp, an erosion or even a cervical carcinoma, rather than to placenta praevia. Examination, however, entails the danger of sudden profuse bleeding from the manipulation as well as the risk of infection. For these reasons only one such examination should be made and that **never in the home** unless hospitalization be physically impossible. It is an invariable rule on my hospital service that no patient suspected of placenta praevia be examined vaginally until the operating room is ready for both vaginal and abdominal delivery.

Diagnostic x-ray studies by the "soft tissue" technique of Manges Smith has in the past three years been a valuable aid in localization of the placenta. By this method the normally situated placenta is well visualized in practically all cases; the low-lying placenta is hidden by the pelvic bones. Finding the placenta high in the uterus is definite evidence against placenta praevia; failure to visualize it indicates that the placenta is probably, but not necessarily, located in the lower uterine segment. The technique is, therefore, dependable only in ruling out, rather than positively diagnosing, placenta praevia. This method of study is applicable obviously only to those patients whose bleeding has almost or entirely ceased. Our experience with the cystogram technique of Ude and Urner has led us to doubt its clinical value.

4. Immediate treatment of shock and replacement of blood loss by transfusions of whole blood or plasma are essential before instituting procedures for delivery. Indeed, the patient in shock should not even be examined until she has reacted because of the danger of additional hemorrhage from digital dislodgement of the placenta. Replacement of blood loss before delivery reduces mortality by more than 50%.

5. Expectant treatment of patients with placenta praevia in the hope of bringing the child to greater viability is never justified unless the patient remains in the hospital throughout the remainder of pregnancy.

6. Profuse bleeding necessitates the termination of pregnancy as soon as the patient is able to withstand the elected procedure.

7. The method of termination of the pregnancy is almost wholly dependent on the status of the cervix. Because of the danger of profuse hemorrhage from the enormous vessels of the placental site and the added risk of infection, manual dilatation of the cervix and forcible vaginal delivery have no place in the treatment of this condition. If the cervix is dilated and the placenta is only partial or marginal, rupture of the membranes often will allow the presenting part, if polar, to make pressure on the placenta sufficient to stop the hemorrhage. Under similar conditions version and extraction are indicated only if the cervix is completely dilated. Braxton-Hicks version, we feel, should be utilized only in cases in which the baby is dead or non-viable and in which the cervix is partially dilated. While it is undoubtedly a valuable means of saving maternal life under emergency conditions, it entails almost certain sacrifice of the child.

The hydrostatic bag probably has its place in the treatment of certain cases of marginal placenta praevia but several instances of continuing intra-uterine hemorrhage following its insertion have resulted in our abandonment of this procedure.

In **all** cases in which the cervix is closed, in **most** cases of central placenta praevia regardless of the cervix and in those of malposition of the foetus, Caesarean section offers the safest and therefore the most conservative forms of treatment. The advantages of Caesarean section are as follows: Rapid delivery shortens the time of continuous loss of blood; avoidance of additional hemorrhage from lacerations incident to traumatic vaginal delivery is avoided; there is less danger of introduction of infection than from bagging, packing, or version; accurate control of hemorrhage is more accurate; and finally, the chance of survival of the child is greatly increased.

I shall not enter the argument concerning the choice of the location of the uterine incision except to state that my preference is to avoid the placental site. In grossly contaminated or infected cases the low flap section or the Porro operation constitute the procedures of choice.

8. Since most of the procedures for delivery are attended by considerable additional loss of blood, arrangements should be made for transfusion in the course of the delivery.

9. Because the placental site in these cases is in the non-contractile lower uterine segment, the danger of postpartum hemorrhage is a very real one following delivery by either the abdominal or the vaginal route. Even a slight amount of bleeding is poorly tolerated by the patient who is already depleted by ante partum hemorrhage and the shock incident to delivery.

The use of ½ cc. of pituitary extract intravenously immediately on completion of the second stage of labor, and firm packing of the uterus and the vagina after expulsion or removal of the placenta will considerably lessen the danger of serious postpartum hemorrhage. In most instances packing the uterus after Caesarean section for placenta praevia is advisable.

10. Blood transfusions are indicated **following** delivery to combat anemia and to improve the patient's resistance against infection. In this way the high incidence of puerperal sepsis following placenta praevia may be considerably lessened.

Despite all precautions one will occasionally be confronted with the necessity of dealing with a severe case of placenta praevia in the patient's home. If the hemorrhage is mild and the cervix is closed the administration of morphine may suffice to control the bleeding. If the cervix is partially dilated and the presentation is cephalic, rupture of the membranes is indicated. In the presence of profuse bleeding a firm vaginal pack should be utilized until the cervix is sufficiently open to allow the insertion of a hydrostatic bag or the performance of Braxton-Hicks version. If the cervix is completely dilated podalic version and extraction are indicated. Whenever possible blood volume should be restored by the intravenous administration of saline or plasma. The interests of the child can seldom be considered in the home management of these cases, and the outcome for the mother is indeed problematic under such unfavorable conditions.

CONCLUSIONS

1. Fully one-half of the maternal deaths from premature separation and placenta praevia are preventable.
2. Prenatal care should always include explicit instruction concerning the seriousness of bleeding during pregnancy.
3. The toxemic patient is particularly liable to premature separation of the placenta.
4. Forcible methods of vaginal delivery have no place in the treatment of either of these complications.
5. Replacement of blood loss and treatment for shock are essential before the institution of methods of delivery.
6. Simple methods of vaginal delivery are indicated in the milder cases.
7. The more general adoption of Caesarean section for the treatment of serious cases will decrease the hazard of both placenta praevia and premature separation of the placenta.

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The Safe Period

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THE INTEREST has grown during the past few years in the question of fertility and sterility as related to fertile, infertile or safe period.

Is there a "safe period" in which intercourse can be had without using contraceptives?

Biologically, this is being answered in the affirmative if the ovulation period is determined. It is necessary, for conception to take place, to have a normal, active spermatozoon meet the ovum within a given time after being deposited in the female genitalia. Time taken for the spermatozoon to meet the ovum in the ampulla of the tube as calculated by Lott[1], from their rate of chemiotatic movement of 3.6 millimeters per minute, would take about three-quarters to an hour.

For the "safe period" to be determined it is necessary to work out with each individual case her date of ovulation. This should be concluded after a study of the menstrual cycle for twelve months if able to do so.

Ogino[2] says the peak of ovulation denotes the time of the following menstrual period and has no connection with the preceding one.

Knaus[3] has shown that the unmated ovum retains germinating ability for only twenty-four hours after leaving the ovary. After proper instructions a patient can usually find her ovulation time. The symptoms in most cases are described as mild, cramp-like pain, coming suddenly and followed with bearing down sensation as if bottom of pelvis were falling out, may last two hours and is compared to gas pains and may be high opposite the umbilicus.

Ascheim and Zondek[4] have shown that hormonal secretions play a prominent role in pregnancy. These are derived from the ovary and the pituitary gland and bear a direct relationship to ovulation, fecundation and menstruation.

There are seven effects from the pituitary gland and two from the ovary.

1. THE ANTERIOR LOBE:

(a) An effect causing ripening of the graafian follicle with the production of folliculin and egg cell.
(b) An effect causing growth of the corpus luteum after ovulation.
(c) An effect which in conjunction with the corpus luteum causes hypertrophy of the mammary glands.

2. FROM THE POSTERIOR LOBE:

(a) An effect causing uterus stimulation.
(b) An effect causing expansion of melanophores.
(c) An effect causing antidiuresis or water retention.
(d) An effect causing increased blood pressure.

THE EFFECTS FROM THE OVARY ARE:

(a) Folliculin which causes hyperaemia of uterus and tubes in preparation for the egg cell.
(b) Corpus luteum which produces further growth of uterus and hypertrophy of mammary glands.

Different scientists have shown that the life of the egg cell is only one day and that the sperm cell is only two to three days. Also with the normal menstruating woman with cycle of twenty-eight to thirty days ovulation occurs between the fourteenth and sixteenth days and ten days are required for the passage of the egg cell through the fallopian tube.

Ogino[2] arrived at the following conclusions:

(1) For women regularly menstruating every twenty-eight days the period of time the human sperm cell was able to impregnate the ovum was the eight-day period lying between the twelfth and the nineteenth day before the next menstruation or between the tenth and seventeenth day after menstruation had started, other days being physiologically sterile.

(2) If the cycle is longer or shorter than 28 days the period of conception is moved so many days ahead or behind.

Further elaborations by Knaus[5] have been made:

(1) Women with regular twenty-six day cycle conception possibilities are limited to the ninth and thirteenth days, inclusive.

(2) Women with twenty-seven-day cycle conception are limited to tenth to fourteenth days, inclusive.

(3) Women with twenty-eight day cycle conception possibilities are limited to eleventh to fifteenth days, inclusive.

(4) Women with thirty-day cycle conception are limited to seventeen to twenty-one days inclusive.

(5) Women with thirty-four-day cycle conception are limited to 17 to 21 days inclusive.

(6) Women with twenty-eight to thirty days conception possibilities are limited to the time from the eleventh to seventeenth days, inclusive, with the maximum of same at the fourteenth to the sixteenth days.

(7) Women with twenty-six to thirty days conception possibilities are limited to the time from the ninth to the seventeenth days, inclusive.

The time of ovulation was established empirically during laparotomies by Ogino[2].He has a five-day ovulation period in a constant menstrual cycle.

Determining the time of ovulation, measuring the uterine contractions by means of a manometer, was done by Knaus[3]. He has a two-day period in a constant menstrual cycle.

In Miller's Clinic[5] eighty-seven apparently normal couples, including eight nationalities and 725 populations, were observed. Where pregnancy was thought to have occurred Aschheim-Zondek[4] test was done.

Eighty-seven cases consisting of twelve different cycles and eight nationalities were studied for sterility.

Cohabitations before and after menstruation total 725 and not a single cohabitation of these two groups resulted in pregnancy.

Anterior pituitary lobe secretion motivates the ovary. The corpus luteum inhibits the posterior lobe secretion, (which stimulates the uterus, thus maintaining pregnancy). When corpus luteum withers, the oxytoxic principle of the posterior lobe secretion asserts itself and labor is brought on.

After study and experimentation, Miller came to these conclusions:

(1) Hormones play a major role in pregnancy.

(2) The sperm and egg cell detached from their respective breeding places have only a short time to live. The egg cell is not longer than a day. For the sperm cell it is two to three days.

(3) Every regular menstruating woman has a definite ovulation period.

(4) Every normal menstruating woman has a definite period of physiological sterility and a definite period of fertility in each cycle.

(5) Cohabitation must be timed with ovulation if pregnancy is to result.

(6) Pregnancy may be brought about or avoided at will by the observation of these two periods of time.

In the study of sterility and fertility Novak[6] sets the theory that there is an anovulatory menstruation as a cause of sterility. This means that the ovary fails to extrude the ovum from its surface enabling it to gain entrance into the tube whereby it might meet the sperm cell.

Is there any way of determining whether or not a sterile woman is ovulating?

This can be done by study of the endometrium just before an expected flow. If ovulation has occurred, the endometrium will show the secretory changes evoked by the corpus luteum hormone (progestin). On the other hand, there is a complete absence of secretory changes. Tissue may be obtained by a small curet or suction.

Menstruation is the result of failure of fertilization and death of the ovum. It would seem rather inconsistent in nature to have menstruation follow in three or four days in one month and nineteen to twenty in another. It is believed that the ovum cannot be impregnated after a few hours as it quickly develops an albuminous membrane which prevents entrance of spermatozoa.

(1) The time of conception is usually the week which falls between the twelfth and nineteenth days before the following menses.

(2) Conception is rarely possible between the twentieth and twenty-fourth days before the menses are expected.

(3) Conception is impossible during the 11 days before menses are due.

A religious tenet among the Orthodox Jews is that a woman is unclean for 14 days after beginning of her period and it is unlawful to have sexual relations at this time. A resumption of relations occurs just at the time of ovulation, to which is ascribed the prolific character of the Jewish race.

In the German Army husbands were granted furloughs 20 days after the beginning of their wives' period or eight or ten days before the next period was due. Only one pregnancy resulted after four hundred such furloughs.

The practical value of this newer theory is:

(1) That none of the religious sects objects to abstinence as a means of preventing pregnancy.

(2) Those desiring children can regulate their sexual activities to the fertile period when conception is probable.

Following these rules the couple can determine more or less the time the babies would be born and the size of their family.

There are many rules and methods figuring out the fertile as well as the "safe period." One of these by Dr. John Culligan[7] is a slide rule which tells when conception is probable, possible or impossible.

He states that patients who have used this rule for twelve months proved his observations were accurate in not less than 95%.

The Birth Control Bureau of New York in a test of more than one hundred so-called contraceptives found about forty-five were unreliable.

A survey in the western part of Florida in 1932 revealed the information that preventatives were sold in 376 places besides drug stores, such as gas stations, garages, cigar stores, news stands, shoe shine parlors and grocery stores.

The president of a certain rubber concern said its business marketed 1200 gross a month.

With the foregoing as facts and with a biological law founded on scientific investigation which has not met with the disapproval either of church or state and offers no harm to those who follow or seek to follow this law, I make appeal to the medical profession that we might more correctly investigate and be able to advise our patients, when they seek information of the so-called "safe period."

Enough evidence has been established to indicate that strict adherence to the method is insurance of sterility even beyond that associated with the employment of most of the contraceptive apparatus and medicaments.

Latz[8] states that he received only one complaint out of 4,000 books sold, and on investigation discovered that the method had been improperly used.

There are two clinical signs of ovulation recognized by gynecologists:

(1) The intermenstrual pain or Mittelschermz.

(2) Intermenstrual spotting.

The first is due probably to the greatest distention of the follicle just preceding rupture. It may be regular occurring on one side one month and on the opposite the next.

The second or intermenstrual spotting may last from one to forty-eight hours, very slight and moderate in amount.

A third indication is the sudden appearance of the follicle stimulating hormone in the urine of normal women.

They tested and found positive (Prolan A) corresponding to ovulation time.

The interval between the appearance of positive Prolan A. and a positive Aschheim-Zondek[4] test were thirteen and ten days respectively. These intervals cover a period of fertilization migration of the fertilized ovum through the tube and uterus and nidation. The time occupied by these processes is considered by embryologists to be ten days. This would bring the appearance of Prolan A and ovulation very close together.

Burns'[9] classification of the natural or physiologic phase which occurs in both the menstrual and pregnancy cycles of all placental animals is as follows:

(1) FOLLICULAR PHASE: Maturation of follicle, proliferating endometrium and progestrus estrus.

2) OVULATION PHASE: Distention and rupture of follicle and escape of ovum, "interval" endometrium (Metestrus).

(3) LUTEAL PHASE: Corpus luteum development, glandular endometrium and pseudopregnancy or pregnancy (Diestrus).

(4) DEGENERATIVE PHASE: Corpus luteum degeneration, endometrial desquamation and menstruation or labor.

(5) QUIESCENT PHASE: Fertile cycle; lactation, infertile cycle; absent or becomes anestrus, non-breeding season.

Quoting from Anderson[10] it is easy to remember these phases by the initial letters ",F" "O," "L," "D," and "X". Chartered graphically, these normally follow each other in the twenty-eight-day cycle in rhythmic succession, like this:

F-O-L-D-F-O-L-D

In the twenty-one-day type instead of a shortening of each phase, in order that each would occur within the 21 days, there is an overlapping so that the follicular phase (f) and the menstrual phase (d) are occurring at the same time:

F-O-L-D
F-O-L-D
F-O-L-D

In the fourteen-day type there is so much overlapping that one ovariouterine cycle is only half completed when the next begins and ovulation and menstruation are taking place simultaneously:

F-O-L-D
F-O-L-D
F-O-L-D

In the menstrual cycle longer than 28 days the X phase occupies a space between cycles, corresponding to the milk phase following pregnancy:

F-O-L-D-X-F-O-L-D

Irrespective of the length of cycle, ovulation always takes place about fourteen days before the oncoming menstruation according to Knaus[3]. If all the cycles were regular there would be no failures if properly adhered to. For impregnation to take place there must first be fertilization and then nidation, and for nidation there must be preparation of the endometrium. First by follicular hormone stimulation and later by luteal hormone stimulation to produce the so-called pregravid endometrium.

Nervous and emotional conditions, such as grief, excitement, etc. alter the period of menstruation and in all probability alter the date of ovulation.

Due to the pain which is often experienced in the lower abdomen many appendices are removed. At operation there is found a ruptured ovarian or graafian follicle in the right ovary, and the appendix normal.

In working out a time table for individual cases, first get as much history as possible of the menstrual cycle especially with regard to irregularities; second, emphasize the importance of keeping an accurate record of menstruation to determine the individual cycle; third, explain to the patient the physiology of ovulation and describe the symptoms as follows:

It is very much like discomfort arising from gas in the intestines. Pain is felt rather high in the abdomen about the level of the umbilicus on one side or other according to which ovary is ovulating. There is a slight tenderness on pressure, bearing down sensation like menstrual cramps. Many have sharp piercing pains lasting only a few seconds and leaving a slight tenderness in the abdomen. Many feel as if going to menstruate in the middle of the month. Some have feeling much like the first time she sat on the toilet after her babies were born. Many have a slight headache, soreness in breast and vaginal secretion. Some say they know the process has been completed when they pass a plug of mucus a day or two later. In a very few cases there is a slight bleeding.

Ovulation may come a few days earlier or later than on the exact day indicated by the cycle card, so the physician should outline or check about five days, three days before and two days after the expected time of ovulation. Have her keep a record of all symptoms as to date, hour of day and just what happened while searching for her ovulation period.

She may use her own code as to happenings but the following code is suggested:

(x) Indicating the number of days occupied by menstruation.

(.) Indicating intercourse on that particular date.

(0) Indicating suspected ovulation or (r) ovulation in the right ovary and (L) in the left ovary, and (-) meaning passed plug of mucus.

Date cards[10] are provided for 21-24-26-28 and 30 day average cycles. These should be described as follows.

21-day cycle card for cycles varying from 19 to 23 days.

24-day cycle card for cycles varying from 22 to 26 days.

26-day cycle card for cycles varying from 24 to 28 days.

28-day cycle card for cycles varying from 26 to 31 days.

30-day cycle card for cycles varying from 26 to 31 days.

When the patient has learned her ovulation period she is able to determine onset of her next menstruation. In the mature woman one of the follicles is ripening almost once a month, then discharging the ovum with rupture of follicle, which is called ovulation.

In all mammals, except bats, in the physiological state the period from the mating time to fertilization is within two days long and in experimental conception only copulation within two days before ovulation is effective for the bringing on of pregnancy.

(a) The human conception period is in the eight days from the twelfth to the nineteenth day before the forthcoming menses, notwithstanding the length of the menstrual periodicity.

(b) The period of eleven days from the first to the eleventh day before the subsequent menses is a sterility phase.

(c) The period preceding the twentieth day before the succeeding menses, that is to say, the period from the beginning of the last menses to the twentieth day before the next coming menses should be deemed as a sterility phase, if we disregard the quite exceptional cases.

The final conclusion is that the human conception period is in the five days from the thirteenth and seventeenth day before the subsequent menstruation regardless of the length of the menstrual cycles.

From observation and the data gleaned from the literature I am convinced that there is a fixed time for ovulation, and that ovulation determines menstruation rather than menstruation determines ovulation.

When the time of ovulation has been found we can rely definitely on a "safe period" or sterile period and can advise our patients of such.

With these biologic facts established we may study our individual cases to classify their cycle properly and when indicated advise them of "the safe period," by which they are not transgressing the laws of their church or using methods averse to their aesthetic senses, and the medical profession can be scientific advisers rather than being exploited by various individuals, organizations or commercial houses for financial or publicity gain.

Conclusions

1. The question of a "safe period" as related to sexual relations has been studied a great deal since more information has been available in regard to the ovum and spermatozoa.

2. As there have been many objections to the artificial contraceptives by church and state, more information has been sought by which normal sexual relations might be had without offending the esthetic senses of the individual.

3. For this to be effective, it is necessary to determine the ovulation period and adhere strictly to the time.

4. There is probably no doubt that in some instances the ovulation period is thrown off due to illness, shock, etc., but generally speaking, I think we could expect the cycles to be about as normal as you would find the menstrual cycle.

5. The medical profession should study this question more that we might be placed in the role of scientific advisers rather than be exploited by commercial houses.

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The Conservative Treatment of Pelvic Inflammatory Disease*

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IN THE TREATMENT of pelvic inflammatory disease conservative measures aimed at a reduction in the number of mutilating operations on young women in the prime of their reproductive life have steadily grown in favor since Robbins[1], Simpson[2], and Crossen[3] pointed the way to conservatism about thirty years ago. That this may be accomplished and at the same time increase the percentage of successfully treated cases has conclusively been demonstrated by the work of Graves[4], Polak[5], Curtis[6], Gellhorn[7], Burch[8], Elliott[9], and other gynecologists of experience.

The etiology of both acute and chronic pelvic inflammatory disease is infection from gonorrhea, labor, abortion or instrumentation. It is believed that gonorrhea causes approximately seventy-five per cent of the cases. The resultant pathology varies greatly, but there are certain general measures which are applicable in the treatment of nearly all cases. In this discussion it is not my purpose to include those few cases caused by the tubercle bacillus.

In the treatment of pelvic inflammatory disease the following measures are of importance:

(1) General measures.
(2) Heat.
(3) Treatment of the cervix.
(4) Protein therapy.

I. GENERAL MEASURES

REST IN BED. In the acute cases complete rest in bed is imperative. Most cases of acute salpingitis recover completely or nearly completely under careful treatment. In the chronic forms of pelvic inflammatory disease such strict rest in bed is not so necessary although a certain amount of bed rest daily is distinctly advantageous. At any rate, the patient's daily activities have to be curtailed and heavy lifting or hard work absolutely forbidden.

DRUGS. Various sedatives and narcotics are to be used as indicated. Sulfanilamide holds a prominent place in the treatment of the acute cases.

DIET. There is no reason for restricting the diet except in acute cases when fever is present. Alcohol, of course, should not be allowed. Careful attention to the emunctories is demanded.

II. HEAT

Heat is the time-honored remedy in the treatment of inflammation; the soothing and healing properties of heat in pelvic inflammations were recognized by Hippocrates and it was applied in the form of the douche. Many years ago the German physicians heated shot and poured them into the vagina for a prolonged heating effect. The hot vaginal douche and hot applications to the lower abdomen are not only valuable in reducing the inflammation of acute infections but also in the chronic stage they aid in relieving pain and congestion. It has been found that the gonococcus is very sensitive to heat, the thermal death point being considerably lower than that which can be tolerated by the vagina and pelvic organs. Cultures of the gonococcus are readily killed by temperatures of 104 to 106 degrees F. in a few hours and by 122 degrees F. in ten minutes[11]. It has been in view of this fact that several devices have been constructed so as to deliver heat to the pelvic organs. Aside from whatever destruction of bacteria is accomplished by the high temperatures the following physiological effects of heat treatments take place[12]:

1. Hyperemia of the pelvis.
2. Leucocytosis—about 17 per cent increase.
3. Profuse discharge from the cervix and vagina which aids in washing away infective organisms.
4. A subsidence of congestion and inflammation and a resorption of exudate.

THE ELLIOTT TREATMENT. This is a convenient and excellent method of applying heat to the female pelvis in treating pelvic inflammatory disease. Heat at 130 degrees F. may be delivered to the vagina and maintained at that point throughout the treatment. With a temperature of 130 degrees F. in the vagina the temperature in the cervix is about 112 degrees F. and lower in the adnexa. Among those reporting success with and praising this treatment are: Gellhorn[13], Counseller[14], Doan, and Simpson[15], and others[16]. In speaking of the Elliott treatment, Dr. George Gellhorn says, "This - - - - - - will help to cure a large number of pelvic inflammations painlessly, without danger, in a short time at a very moderate expense, - - - - - without the protracted convalescence or the aftermath that will follow so many cases that have been operated on for inflammatory conditions."

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SHORT WAVE DIATHERMY. Short wave diathermy may be defined as the penetration of the body tissues by an oscillating electric current of extremely high frequency. The current travels between two electrodes and heats the intervening tissues. In administering this form of therapy to cases of pelvic inflammatory disease one pad (electrode) is placed low in the back opposite the sacrum and the other pad (electrode) over the pubis and lower abdomen or one of the electrodes, specially constructed, may be placed in the vagina. With the advent of the new short wave diathermy machines older methods of applying heat became obsolete in that short wave diathermy causes the heat to be applied deep and brought right to the point where it is needed most, i.e. in the diseased tissues. The heat is more intense, more efficient, more rapid, more evenly distributed, and the deep heating effect is more marked than is the case with the older conventional diathermy or other methods. The increase in circulation in the diseased pelvic organs which this agent affords is largely responsible for the benefiicial effect[17].

At the present time the use of short wave diathermy offers one of the best and most convenient methods of applying deep heat to the pelvic organs. Cherry[18] in discussing diathermy in pelvic infections said, "In pelvic infections of gonorrheal origin it is the treatment of choice" and "it is the most satisfactory agent for the conservative treatment of pelvic inflammation due to gonorrhea. It relieves pain, diminishes the pelvic masses and aids in complete resolution."

III. TREATMENT OF THE CERVIX

In pelvic inflammatory disease there are three principal foci of infection: 1. The cervix; 2. Skene's glands; 3. Bartholin's glands. Infection will remain in the cervical glands indefinitely and if neglected recurrent attacks of pelvic inflammation will occur. To eradicate this source of reinfection of the pelvic organs it has been the practice of some to do a radical cauterization of the cervix but Karnaky[19] has shown that electro-conization is followed by less fibrous tissue reaction, and there is less likelihood of cervical stenosis. In the latter operation approximately the anterior one-fourth of the cervical canal is removed in a cone-shaped section, and this makes the cervix similar to that of a Sturmdorf operation. In practice this step is deferred until as much of the infection in the cervix has cleared up as can be accomplished with antiseptics and douches so that it can be done in a less infected field.

Throughout the course of treatment of these cases one ounce of iodine-glycerin solution is applied to the cervix and a tampon placed in the vagina at each office visit.

IV. PROTEIN THERAPY

Various protein substances when injected parenterally have the property of activating the protoplasm of all the body cells, and especially so those cells which may be engaged in a struggle against invading micro-organisms. This cellular activation serves to increase the natural forces of resistance of the body and to overcome the infection. The number of proteins which have been used is large but sterilized milk has been one of the most popular since it was introduced into medicine by Dr. Robert Schmidt, of Prague[20], in 1916. In a study of 18,270 injections, Green[21] states that there was not a single case of anaphylaxis and that the pain in chronic pelvic inflammatory disease was lessened and the appetite improved. In chronic and subacute cases it is my practice to give 10 cc. of sterilized milk intramuscularly in the gluteal muscle at intervals of five to seven days.

Typhoid vaccine intravenously is a very useful agent in the acute cases caused by the gonococcus. Beginning with the injection of 20,000,000 organisms and by carefully increasing the size of the dose, temperatures of 106 degrees to 107 degrees F. are readily obtained. Immediate and striking results are usually acquired.

SUMMARY OF TREATMENT

My usual routine in chronic cases and in acute cases as soon as they become ambulant is as follows:

1. At home.
    - (a) At least three hours of rest in bed each day with hot water bottle to the lower abdomen and lower back.
    - (b) Two hot douches each day.
    - (c) Careful attention to the diet and emunctories.
2. In the office at intervals of five to seven days.
    - (a) Iodine-glycerin solution applied to the cervix and vagina with the aid of a tampon.
    - (b) Sterilized milk 10 cc. intramuscularly.
    - (c) Short wave diathermy forty minutes.
    - (d) Electro-conization of the cervix at the proper time.

Employing the measures just described, I have treated 121 cases of pelvic inflammatory diseases. Included in the series are eight patients who previously had had major pelvic surgery which did not afford relief to the patient, and who sought further treatment.

According to the severity of the disease and the stage of the infection my cases are classified as follows:

1. MILD	No. of Cases
Acute	18
Subacute	13
Chronic	27
Total	58

2. SEVERE	No. of Cases
Acute	24
Chronic	39
Total	63

Fifty-four were white and sixty-seven were negroes. My results have been gratifying in that the patient has almost invariably been relieved of her suffering and the infection cleared up. Of the 121 patients treated I have been forced to operate on only six because of failure of the conservative régime. It is in the group of chronic cases where there has been extensive formation of adhesions in the pelvis, displacements of organs and permanent irreparable damage to the organs necessitating surgery. Most of these patients sooner or later require an operation.

Eight of my patients have had successful pregnancies subsequent to the treatment for pelvic inflammatory disease. Because of this one fact we have a strong case for conservatism in gynecology. Of course, not all cases will be able to have children but many of them can, and there is much consolation in thinking that there is a possibility. One gynecologist[22] in discussing this point has this to say, "Infection may be removed with the tubes and ovaries, but restoration of health and happiness to the patient often does not result. In its stead there is sometimes pain, sterility and maladjustment."

CONCLUSION

In conclusion I wish to quote the following from Dr. Burch:

"The profession has begun to realize that the patient with gonorrhea offers a problem, the answer to which is more difficult than salpingectomy.

"I have turned my attention from the adnexa to the foci of infection. There are three favorable locations in the female genitalia for lodgement of the gonococcus: (1) Skene's glands; (2) Bartholin's glands; (3) the closed canal of the cervix, where they remain indefinitely and travel through the uterus to the tubes producing recurrent attacks of pelvic inflammation.

"I have had several cases showing large pelvic abscesses in which I subsequently operated for other conditions and found that the organs were practically normal. Patients for whom operation had been advised and refused later conceived through the same tubes that I wanted to remove. These experiences led me to the conclusion that I would try conservative treatment consisting of local cervical applications, radial cauterization, douches, diathermy and protein therapy.

"To cure cervical gonococcus is a long, hard, and extremely tedious undertaking. The weak link in the palliative treatment has been the non-elimination of the focus of infection.

"If all foci are eliminated many of these patients with pelvic inflammation will recover without the necessity of a mutilating operation."

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Benign Tertiary Manifestations of Syphilis Presenting Difficulties in Diagnosis*

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THE VARIOUS aspects of syphilis have without doubt been presented to you on numerous occasions in recent years. Emphasis has been placed on essentials in the control of its spread. The diagnosis and treatment of infectious syphilis have been repeatedly stressed. Unquestionably the importance of the two fatal manifestations of this ubiquitous disease, namely cardiovascular and central nervous system syphilis, have been brought to your attention.

Today, by variation, I wish to review briefly some of the late or tertiary syphilitic manifestations as seen in the viscera and skeleton, which, though rarely fatal, rise, nevertheless, to plague us as physicians in the field of diagnosis and treatment.

Certainly, and properly so, the general practitioner first sees the majority of patients having syphilitic lesions. Because of his multiple interests he cannot be expected to be a specialist in this disease. The purpose of the recent emphasis on syphilis directed toward the profession is to make its members so suspicious of this disease that the "blood test," that most valuable method of diagnosis, will be used more and more. Though it has become time-worn, the statement that syphilis is no respector of age, sex or station in life, bears reiteration again and again. Because a given patient comes from the "best family" in town, or because the physician delivered the patient as an infant, or because the patient is a prominent citizen in the community, does not excuse the mental dismissal of the consideration of syphilis by the attending physician.

My purpose in reviewing some of the late benign tertiary manifestations of syphilis is not to parade for you, lesions having only curiosity value, but to indicate their importance in differential diagnosis. The conditions to be reviewed are in some instances rare, and may never be seen by most of you, while others are of common occurrence. In all, however, they will illustrate Osler's comment that "to know syphilis is to know medicine." Or in other words, I wish to emphasize that syphilis does not need to be considered in diagnosis. (Benign tertiary skin lesions have not been included in this discussion for they make up a subject themselves.)

Literally, the lesions of late syphilis have been known to occur in every tissue in the body. Obviously, all possible manifestations of the disease cannot be described here. However, I shall briefly present enough examples of tertiary syphilis from my experience to indicate the multiple diagnostic problems which may arise.

SYPHILIS OF THE MUCOUS MEMBRANES. A gummatous lesion of the pharyngeal wall, soft palate and tonsillar fossae constitute one of the most common tertiary lesions seen in practice. Such a lesion of the tongue is more infrequent. Tertiary ulcers of the hard palate often originate as periosteal or osseous lesions.

Except in the case of the latter, the patient first becomes aware of a "sore throat," which, however, is usually not as painful as in the case of acute pharyngitis of, say, streptococcal origin. Often an analysis of the symptoms indicates that the complaint is not primarily related to pain so much as to mechanical difficulty in swallowing.

Examination, early, shows a relatively nontender thickening of the soft palate, posterior pharyngeal wall or tonsillar fossa. Frequently the structures present a pale, edematous appearance. At times the color is violescent. Occasionally involution of the process occurs without tissue destruction. Usually the lesion goes on to tumor formation, then to ulceration, perforation of such structures as palate, and tonsillar pillars, and wide destruction of tissue. Gummata of the posterior pharyngeal wall and tongue may present more sluggish ulcers and may not be so destructive. The syphilitic ulcers of the mucous membranes characteristically present a crater, at times deep, with dirty gray exudate, and little redness at the borders as is the case in ulcers of acute pyogenic origin. Healing occurs with extensive scarring, and often deformity of anatomical structures.

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The diagnosis of late syphilis of the mucous membranes implies the differentiation from tuberculous ulcer, Vincent's angina, carcinoma and occasionally fungus infection.

SYPHILIS OF THE RESPIRATORY TRACT. In the respiratory tract, syphilis other than that of the larynx is exceedingly rare. Gummatous involvement of the larynx is not uncommon.

In the case of the latter the symptoms bringing the patient to the physician are mainly hoarseness of varying degree, and occasionally difficulties associated with swallowing due to involvement of the epiglottis.

Examination with the laryngeal mirror may show pin-head to bean-sized tumefactions above the vocal cords or at the base of the epiglottis. They may break down to form ulcers with necrosis even to extrusion of the cartilages, or they may simply lead to extensive scarring resulting in marked deformity of the epiglottis or stenosis of the larynx which may require tracheotomy or other operations.

The diagnosis by the physician is usually acute or chronic laryngitis. But a laryngitis which is persistent should always raise the question of such chronic disease as syphilis, tuberculosis, carcinoma, and benign tumor.

Syphilis of the lower air passages is rare, occasionally occurring as involvement of the bronchi and especially of the trachea, in the region of its bifurcation. Gummatous lesions may develop in the mediastinum, peritracheal lymphnodes, or in the tracheal wall itself, leading to ulceration of trachea or bronchus. Scarring results in fibrous peritracheitis or peribronchitis and eventually to stenosis.

The symptoms are those of chronic pulmonary disease with cough, sputum, often foul. and later with stenosis, dyspnea and orthopnea. Hoarseness due to involvement of the left recurrent laryngeal nerve may occur. Tracheoesophageal fistula develops at times with the coughing up of ingested food.

Upon examination merely the signs compatible with chronic bronchial disease (bronchiectasis) may be present. Stridulous breath sounds will be heard over the lung in the presence of tracheal or bronchial stenosis. The x-ray examination may be of little value showing only hilar or pulmonary shadows. Bronchoscopy is important in diagnosis.

The differential diagnosis includes the chronic pulmonary diseases such as tuberculosis, bronchiectasis, congestive heart failure and carcinoma. In the presence of stenosis mediastinal tumors, including aortic aneurism, must be excluded.

Syphilis of the lung is a very rare disease. Some clinicians feel that a diffuse pulmonary fibrosis may result from syphilis, and on this basis a roentgenologic diagnosis of pulmonary syphilis is made not infrequently. However, there is no pathologic confirmation of such a lesion. Nevertheless it is well recognized that gumma may occur in the lung, and a fair number of these have been described in the literature.

The symptoms may be cough, with or without sputum, and at times bloody sputum. Low-grade fever is usually present.

In the case of gumma of the lung there will be the signs of pulmonary infiltration and moisture. The x-ray plate usually reveals localized shadows with fibrosis in the lobe involved.

The diagnosis includes the differentiation of the lesion from other types of chronic pulmonary infection as well as neoplasm.

SYPHILIS OF THE GASTRO-INTESTINAL TRACT. Except in the case of the liver, syphilitic lesions of the gastro-intestinal tract are rare. Tertiary syphilis of the esophagus is exceedingly rare, but such disease of the stomach is more common.

In the case of esophageal syphilis the symptoms which will bring the patient to his physician are progressive difficulty in swallowing, regurgitation of food, loss of weight, and possibly retro-sternal pain.

Examination will be revealing only by the use of the x-ray or esophagoscope. The x-ray will demonstrate an obstruction to the passage of the barium meal. Esophagoscopy may show ulceration, tumor formation or stenotic scar depending upon the stage of the disease at the time the examination is made.

Because of the presenting symptoms the clinician will need to consider cardiospasm, carcinoma and diverticulum of the esophagus. The diagnosis will need to rest on x-ray study and esophagoscopy with biopsy.

Syphilitic ulcer of the stomach is being recognized more and more in recent years. The symptoms may be indefinite as, gaseous distention, and anorexia. In some cases the picture of peptic ulcer with or without complications is present. Again the story simulates that typical of gastric carcinoma. Weight loss is usual and may be marked.

Examination may reveal a hard mass in the epigastrium. Roentgenologic study will show the defect of an ulcerative lesion; if healing has progressed to some extent, especially in the case of a lesion low in the stomach, an hour-glass constriction is common. Hypochlorhydria or achlorhydria are usually found.

The diagnosis consists mainly in differentiating the syphilitic ulcer from peptic or malignant ulcer.

The liver frequently presents evidence of invasion by the treponema pallidum. In this discussion no attention will be given to the hepatic manifestations of early syphilis. Gummatous hepatitis is not infrequent in late syphilis, appearing either with multiple nodules of varying size, or with a single large tumor. Subsequently, scarring often leads to marked deformity of the organ. (There is question whether cirrhosis may be attributed to syphilis).

Awareness of a mass in the upper abdomen may bring the patient to the physician. Fever is not uncommon. Indefinite gastro-intestinal symptoms, sense of heaviness in the abdomen, anorexia and loss of weight are frequent.

Examination will probably demonstrate a liver which may be generally enlarged due to multiple gummata in it, or one lobe, the left especially, may be found enlarged due to one or several tumor masses. The spleen occasionally is enlarged as well.

Conditions to be considered in the differential diagnosis are mainly carcinoma, either primary or metastatic, amebic abscess, and the "hob-nail" liver of portal cirrhosis. Rarely congenital cystic disease and echinococcus cyst may have to be thought of.

In the past, the diagnosis of tertiary syphilis of the rectum, leading to stricture, has been quite commonly made. Though it had been recognized that response to specific treatment in these lesions was not characteristic, the condition was thought to be syphilitic. Within the past few years it has become obvious that this form of rectal disease represents the infection lymphopathia venereum in a patient who also has syphilis.

SYPHILIS OF THE TESTICLE. This late manifestation of syphilis is seen occasionally. The condition presents a painless, slowly enlarging growth, usually unilateral. Ulceration may appear late if no treatment is given. Upon examination a non-tender, hard mass is found, usually smooth, though it may be irregular due to multiple gummata. At times the epididymis is involved. Tuberculosis and neoplasm must be differentiated from tertiary syphilis.

SYPHILIS OF THE SKELETAL SYSTEM. Syphilis of the bones is a frequent manifestation of late stages of the disease. The major lesions of late syphilis as found in the bones are periostitis and osteitis, or a combination of both.

Periostitis is especially likely to occur in the long bones and is a proliferative lesion. Pain is prominent, and there often is a resultant limitation of the use of the affected part. There may be localized swelling over the involved area in the case of superficial bones, or general swelling of the part if deeper areas are involved. Irregular bone deposit may be palpable. In the case of superficial bones, the periostitis at times leads to extension of the inflammatory process to the overlying skin with ulceration, as is seen not uncommonly over the tibia. The x-ray plate will usually demonstrate thickening of the periosteum often with irregular bone deposit on the surface of the shaft.

Osteitis frequently accompanies periostitis, or occurs primarily as such, especially in the flat bones, as skull, sternum, ribs, scapula, bones of the face and nasal septum. Often the lesions are multiple. Osteitis may be a destructive or a proliferative lesion, or both. Symptomatically the condition is accompanied by severe bone pain, said to be worse at night. Sometimes ulceration of overlying skin or mucous membrane occurs with sinus formation. Sequestra may be extruded. Healing may be associated with deformity due to tissue loss, as in the case of facial and nasal bones. Examination reveals a soft to firm swelling over the involved areas. Tenderness is present and often exquisite. The x-ray examination may reveal "worm-eaten" areas in the bone, in the case of the skull especially. In other bones the appearance of both a destructive and proliferative process is frequently demonstrable.

Syphilitic bone lesions must be differentiated from those of metastatic neoplasm, pyogenic and tuberculous osteomyelitis, and bone tumor. The headache of osteitis of the skull may suggest brain tumor, and syphilitic meningitis.

Acute sinusitis may be simulated. Non-specific periostitis and varicose ulcers of the legs must be differentiated from those due to syphilis.

(Perichondritis of the cartilaginous structures of the nose and ear are comparable, pathologically, to periostitis).

SYPHILIS OF THE EYE. Aside from syphilitic affections of the optic tract which must be logically classified with neurosyphilis, there are two late syphilitic lesions of the eye which should be discussed briefly. These are chorioretinitis and kerato-iritis. (Both conditions also are seen as early manifestations.)

Chorioretinitis is manifested by a progressive impairment of vision, varying in rapidity and degree. It may lead to blindness. Opthalmoscopic examination reveals patches of exudate in the fundus, and upon resolution of these, scarred areas of pigmentation.

Iritis or kerato-iritis causes pain referred to the eye, photophobia, and dimness of vision. Examination shows circumcorneal injection, often haziness especially of the peripheral portion of the cornea, edema of the iris, and, if of some duration, adhesions between the iris and anterior lens capsule. As a residual finding there is often an irregular pupil and an iris adhered to the lens capsule.

In the diagnosis, it must be recalled that there is nothing specific about either lesion to differentiate it from similar lesions associated with focal infection, tuberculosis, gonorrhea, rheumatic fever and influenza, as the case may be.

DISCUSSION

The slides have shown examples of various late benign lesions of syphilis.

Some of these conditions are of common, or at least of not uncommon occurrence,—namely: tertiary syphilis of the mucous membranes, bones, liver, larynx, and eyes. Any physician engaged in an active practice of general medicine for a matter of several years must have seen instances, whether recognized or not, of these late syphilitic lesions. The remainder of the tertiary lesions described,—those of esophagus. stomach, lung or testicle, are either very rare, or at least uncommon, and probably will be seen by relatively few practitioners. They have been included in this discussion to complete the picture of late benign syphilis and to give point to the appellation of "the great imitator" which has been applied to syphilis for a generation.

For some years it has been repeatedly emphasized to the profession that the "blood test" must be used constantly in the presence of diseases of the cardiovascular and central nervous systems, of the skin, genitalia and in pregnant women. It has been the aim of this paper to raise the "index of suspicion" among my listeners, with respect to syphilis, in the presence of chronic diseases of the mucous membranes, bones, larynx, liver and eye.

Fortunately, for the practitioner, the "blood test" is positive in over ninety-five per cent of the cases of untreated late benign syphilis. (This in contrast to the lesser incidence of positive tests in cardiovascular and central nervous system syphilis.) Therefore if the physician will be suspicious enough, despite the patient's status in local society, the presence of or absence of syphilis can be quite quickly and accurately determined. A trial of antisyphilitic treatment may be indicated in a small number of patients presenting a probable tertiary lesion and a negative blood serology.

Lastly, but of exceeding importance, must be emphasis on the fact that other coincident diseases occur among the host of syphilitic patients. If the lesion under observation may represent either carcinoma or late syphilis, either tuberculosis or syphilis, the establishment of the accurate diagnosis must not be delayed too long. The efficacy of bismuth and iodides in tertiary lesions is so great that two weeks, and at most three weeks, is all the time necessary to determine beginning success or failure of treatment. If no tendency toward healing is demonstrated within this time, biopsy, in the case of suspected carcinoma, or further search for tuberculosis in a case of suspected tuberculous infection, is indicated.

SUMMARY

The manifestations of late benign syphilis may simulate those of many chronic diseases. If the suspicion of syphilis will arise in the physician's mind, the "blood test" and antisyphilitic treatment will settle the status of the lesion in practically all cases. Finally, all chronic lesions in the presence of positive complement fixation or precipitation tests are not necessarily of syphilitic origin.

CASE REPORTS

The following cases were used to illustrate the paper. In each case, not coming to autopsy, the subsequent course and response to antisyphilitic treatment substantiated the diagnoses as given.

Case I. A 34-year-old colored female, with no history of syphilis, complained of "sore throat" of 6 months' and hoarseness of 3 months' duration. Dysphagia was present. Examination revealed a dirty white ulcer 2 cm. in diameter at the junction of the hard and soft palates. A perforation 3x10 mm. was in the center of the ulcer. Wassermann and Kahn tests were positive. Diagnosis was gumma of the palate. This must be differentiated from tuberculosis and cancer.

Case II. A 32-year-old white male had a chancre 12 years before. "Sore throat" for 6 months, and hoarseness for 2 months. The complaints of pain and swelling of the elbows had been present for 3 months. A diagnosis of tuberculous laryngitis had been made. The voice was husky, the throat red and swollen. There was extensive ulceration of the larynx, the epiglottis being almost completely destroyed. The elbows were swollen, red and hot. Wassermann, Kahn, and spinal fluid were positive. The x-ray showed bone destruction in the humerus. Diagnosis was syphilis of the larynx, syphilitic osteitis, and asymptomatic neurosyphilis. The laryngeal lesion had to be differentiated from tuberculosis and carcinoma.

Case III. A 47-year-old white female, with no history of syphilis, complained of dyspnea, cough, and frothy sputum of 7 months' duration. Loss of strength and constant orthopnea were recent. A scar was found in the pharynx. Stridulous breathing and enlarged liver and spleen were present. The Wassermann test was positive. X-ray examination of the lungs was negative. Death was due to asphyxia. Autopsy revealed stenosis of the trachea at the bifurcation (4 mm. in diameter) and a scarred liver. Diagnosis includes differentiation from mediastinal tumor, bronchial cancer and aortic aneurism.

Case IV. A colored male, aged 40, gave no history of syphilis, but had had symptoms of cardiac failure for 1 year. The chest revealed, in addition to cardiac enlargement, impaired resonance, decreased breath sounds and many rales. Wassermann and Kahn tests were positive. The roentgenologist diagnosed pulmonary tuberculosis. The clinical diagnosis was cardiovascular syphilis and pulmonary tuberculosis. He died 20 months later. Autopsy revealed aortitis, gumma, syphilitic arteritis and fibrosis of the lung. Differential diagnosis included tuberculosis, cancer and silicosis.

Case V. A 48-year-old white female complained of difficulty in swallowing for 3 months. There was no history of syphilis though the husband had died of paresis one year before. There had been loss of weight. Wassermann and Kahn tests were positive. X-ray study showed an obstructive lesion in the esophagus. Esophagoscopy showed a tumor which was non-malignant. Diagnosis was gumma of the esophagus and needed to be differentiated clinically from carcinoma, spasm, diverticulum, mediastinal tumor and aortic aneurism.

Case VI. A 32-year-old white male gave no history of syphilis but had a congenitally syphilitic child, age 9 years. He complained of "gas and fullness of the stomach" of 6 months' duration. Appetite was good. For 4 months there had been dull, aching epigastric pain aggravated by food. There was a 70-pound weight loss. A penile scar was present. Wassermann, Kahn, and spinal fluid were positive. There was achlorhydria, and occult blood in the stool. The roentgenologist diagnosed gastric ulcer. Diagnosis was syphilis of the stomach and asymptomatic neurosyphilis. The lesion had to be differentiated from gastric ulcer and carcinoma.

Case VII. A white female, aged 32 years, had syphilis of 7 years' duration. While taking a bath 2 months before, she felt a hard, non-tender mass in the abdomen. There had been a "sore throat" for 11 months 3 years before. The patient had a low-grade fever. A scar in the right tonsillar fossa was present. Liver and spleen were markedly enlarged. A tumor 8 cm. in diameter was present on the surface of the large liver. Wassermann and Kahn tests were positive. Diagnosis was gummatous hepatitis. Primary or metastatic cancer, amebic abscess and cyst must be differentiated from this lesion.

Case VIII. A 31-year-old white male had a chancre 15 months before and received 15 intravenous and 5 intramuscular injections at that time. Nine months later he fractured his nose, which did not heal. The nose presented perforation of the septum, and a painless, non-tender red swelling of the nose with crusting. There were 4 crusted lesions on the trunk. Wassermann, Kahn, and spinal fluid were positive. Diagnosis was perichondritis, tertiary syphilis of skin, and asymptomatic neurosyphilis. The nasal perichondritis had to be differentiated from trauma, pyogenic and fungus infection.

Case IX. A white female, aged 29 years, gave no history of syphilis. There had been pain and swelling over the left antrum and temporal region for 3 months. Extraction of teeth had not improved this. Bloody, purulent secretion drained from the left nostril. There was extreme edema of the left face extending to the forehead. Tenderness over the antrum was present. Wassermann and Kahn tests were positive. X-ray study showed density of the left antrum, erosion of the maxilla, especially of the floor and lateral borders of the orbit. There was also an area of destruction in the frontal bone. Diagnosis was syphilis of maxillary and frontal bones. The clinical differentiation included carcinoma of the antrum, sinusitis and osteomyelitis.

CASE X. A 31-year-old white male had a chancre 6 years before. Six months before admission he fell on his occiput and was unconscious for 5 minutes. For 3 weeks, 3 months before admission and in the past month there had been constant severe headache. Vomiting was frequent recently. There was tenderness of the skull. Wassermann and Kahn tests were positive. Spinal fluid was negative. The x-ray revealed destruction of bone in the occipital and frontal areas. Diagnosis was syphilitic osteitis of skull. Differential diagnosis included at first, brain tumor, subdural hemorrhage, and syphilitic meningitis.

CASE XI. A 57-year-old white man had had a chancre 6 years before. For 3 months there had been a "lump," on the chest and in the neck, increasing in size. A soft mass was found over the sternum and a smaller one with a sinus at the sterno-clavicular joint. A hard nodule was present in the right testis. Wassermann and Kahn tests were positive. X-ray study showed roughening of the sternum. Diagnosis was syphilitic osteitis and gumma of the testicle. Clinically, the lesion of the sternum had to be differentiated from aortic aneurism, tuberculosis of bone and fungus infection.

CASE XII. A colored woman, aged 36 years, with no history of syphilis had had anorexia, abdominal discomfort and a loss of 54 pounds in 2 years. Aching occurred in various joints. Pain and swelling of the right leg had been present for 4 months. For a year there had been a swelling on each side of the forehead, one of which had drained for the past 4 months An egg-sized tumor was found at the right fronto-parietal region and a draining sinus at the same area on the left. The lower half of the right leg was markedly swollen and tender. The liver was enlarged. Wassermann and Kahn tests were positive. X-ray study revealed osteitis of skull, tibia, and fibula. Diagnosis was syphilitic osteitis and gummatous hepatitis. The differential diagnosis in the lesion of the leg would include bone tumor, tuberculosis and osteomyelitis.

CASE XIII. A 59-year-old colored man, with no history of syphilis, was first seen in 1936 for painless swelling of the left knee, of several months' duration. In 1938, the condition was unchanged. The knee showed a non-tender hydrarthrosis. Wassermann and Kahn tests were positive. X-ray examination was negative on the first occasion and showed a slight amount of periostitis on the second visit. Diagnosis was syphilitic hydrarthrosis. Trauma, arthritis and Charcot joint must be differentiated.

CASE XIV. A colored female, aged 29 years, with no history of syphilis was found to have a positive "blood test" and was given an injection of neosalvarsan. Following treatment there developed pain in the eyes, photophobia and diminished vision. The cornea was cloudy and circumcorneal infection was present. Wassermann and Kahn tests were positive. Diagnosis was syphilitic kera-iritis as a Herxheimer reaction. The etiology of iritis includes also gonorrhea, tuberculosis and focal infection.

CASE XV. A 29-year-old white male who had had acute syphilis 7 years before had a sudden onset of dimness of vision, 6 weeks before. This progressed rapidly for 4 days and then more slowly. Vision was limited to large objects at a short distance. A perforated nasal septum was found. In the fundi were retinal exudate and pigmented scars. Wassermann and Kahn tests were positive. Diagnosis was syphilitic chorioretinitis. Differential diagnosis would include tuberculosis and focal infection.

DISCUSSION

DR. V. B. HARRISON (University): When General Sheridan devastated the Shenandoah Valley during the Civil War he stated in his report that if a crow then flew across the valley it must take its own provisions with it. Now, I know how that crow must have felt. Although Dr. Kampmeier has given us much food for thought, he certainly left little "to chew on" for those who are to discuss his paper.

Dr. John Stokes states that "Syphilis is a disease of low visibility and wide dispersion of manifestation. A large part of its course is run below the threshold of attention. It has two relatively obtrusive periods, that of the primary sore and secondary eruption, and that of terminal complications." Therefore, it would be a serious error to assume that the latent lesion which we might be fortunate enough to recognize is the sole pathology present. We should search diligently for evidence of malignant or potentially malignant lesions of the disease. We should not allow the term **benign** to lull us into a sense of false security. The very presence of clinically demonstrable pathology is *prima facie* evidence that the patient has low resistance to his infection and the chances are good that vital organs are also involved. Therefore, the presence of benign lesions are of more diagnostic than prognostic importance.

Dr. Kampmeier has properly stated that the general practitioner cannot be expected to be conversant with all the protean manifestations of syphilis but he is expected to have a high index of suspicion and he should use freely the available tests for syphilis. However, the clinician should be critical in his interpretation of the reports on the tests. A patient should not be condemned on a single test or multiple tests on a single sample of blood. Likewise, a patient should not be exonerated on a single test if there is enough clinical evidence to support the merest suspicion of syphilis. That is, in the diagnosis of syphilis the laboratory should be considered a crutch for aiding rather than a vehicle for carrying the clinician.

While treatment is beyond the scope of Dr. Kampmeier's paper, a warning against the promiscuous treatment of latent syphilis with even obviously benign lesions is in order. The very presence of benign lesions should accentuate rather than dull the clinician's wits. Energetic or careless treatment may produce a therapeutic paradox with critical injury to the patient. A clinical cure is small consolation to a permanently disabled or dead patient.

For years the attention of the clinician has been focused on the so-called malignant lesions of syphilis. Dr. Kampmeier has rendered us a great service by directing our attention to the less well-recognized benign lesions of syphilis. If this paper serves to whet our diagnostic acumen, as I believe it has, our service to our community and profession has improved just that much.

DR. H. K. COCKERHAM (Gunnison): The thing that I want to emphasize is the fact that this is the first time in my 35 years' attendance on medical associations that I have heard a discussion or an admission that there is syphilis of the lungs. I read a paper about 10 years ago before this body, and only Dr. Rembert discussed the paper, probably because I requested it. I just want to emphasize the fact that we do have syphilis of the lungs, and I believe we have been overlooking it, for if we were to look for it we would find more of it. The reason we have not looked is due to the fact that 40 or 50 years ago we accepted the statement of one of our physicians, who said there was no such thing as syphilis of the lung. We have no reason to believe that lung tissue has any immunity against syphilis.

DR. H. W. KAMPMEIER (closing discussion): I am glad Dr. Marshall mentioned the matter of the serological test, which is a very important thing. The diagnosis of syphilis is well established, both clinically and from a laboratory standpoint.

I should also like to emphasize the matter he mentioned in regard to the care of the patient who has late benign syphilis. In cases of syphilis of the eye arsenic should not be used for a period of probably two months; bismuth and iodine are the only things available for the treatment of late syphilis of the eye.

I am glad Dr. Marshall brought out the point of spinal fluid examination. The treatment of the patient may eliminate his ending up in the state hospitals. Also, for the doctor's interest, I think we have had four or five proved cases of syphilis of the lungs at the Vanderbilt Hospital.

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Mississippi State Medical Association

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Now let every one be making plans for the meeting of the Mississippi State Medical Association which will be held at Biloxi on May 13, 14, 15 with the Buena Vista Hotel as headquarters. The State Hospital Association will holds its annual meeting on May 12 on the Coast also and on the same date the pediatricians will meet. Three doctors from Camp Shelby are listed on the program of the state meeting. The doctors at the camp one and all are cordially invited to attend the meeting. The beloved Dr. Rudolph Matas, of New Orleans, is listed to deliver the annual oration. Twenty-six years ago he delivered the SOUL OF THE SURGEON at Hattiesburg. No greater masterpiece has ever been expressed in the same number of words. Dr. George Pack, of New York, is the highlight on the surgical section. Dr. Seale Harris, of Birmingham, features the medical program. It has been decided to have a "public night" on Wednesday night in addition to the public program on Tuesday night. This is a move to bring about a better understanding between the laity and the profession. We will give you full information about the program in the April issue of the journal.

The Gulf Coast, the playground of the Deep South, is rapidly becoming the mecca of conventions. The air is balmy, but invigorating; the birds and flowers nod welcome; the residents are friendly and cordial, and the flow of distant visitors foster a cosmopolitan interest in conversation.

We have many medical societies, but none quite as important as our state organization, considering our medical interest in its entirety. Be sure your dues are paid before April 1. You need organized medicine and organized medicine needs you. Your going to the state meeting might help some one, and you will be rewarded by contacts, new ideas, stimulated thinking.

The examinations for the selective draft is a pretty big job for one man in one of our average size counties. All doctors in the county should tender their services to the board and the board should not hesitate to add others or all the doctors to the examining list. Real democratic medicine would indicate that each county medical society form itself into a staff and formulate a plan to do the examining. This would distribute the load and it would insure a more thorough examination. But in the meantime there should be co-operation with the designated examiner not only when he asks for aid in examining a draftee, but to help look after his private practice for him on his very busy days. The profession in Mississippi will have to be on tiptoe to close in the ranks when many of our men are in the service so that the people may not suffer for medical aid. Our ranks are already very thin and a very large percentage of our people is limited in ability to pay, hence, our dwindling lines will have to show the same spirit shown by our fathers who wore the Gray. Our cause is great and let us not be found lax in our duty.

The airplane crash in Canada last week that took the life of Dr. Frederick Grant Banting at forty-nine was one of the great tragedies of North America. Dr. Banting saw service in the other World War. While practicing medicine in a small town and doing the best he could with what he had at hand he kept alive a vision. He then staked his worldly possessions for the opportunity to make his dream come true. The end result was insulin. It has saved the lives of thousands and prolonged the lives of millions. It is said that he was offered a million dollars for the patent, but he refused it. He sold it to the University of Toronto for one dollar and accepted a chair in this great university at a very modest salary. For the last few years it is said that he has been making an exhaustive study of cancer, searching for a cure for it. The results of this work have not been made public.

He was on a mission, we do not know what, when the plane crashed. He seemed to think he was not badly hurt. He bound up the wounds of his pilot who was seriously injured, then walked a few steps to a pile of brush where he lay down and died. Only the pilot was saved. He was a great humanitarian, always putting service above self. In the death of Sir Frederick Banting the whole world has sustained a great loss. Surely he truly lived and breathed the soul of medicine.

During the World War hundreds of doctors made thousands of examinations without any compensation. They are doing it now. The question has been asked, Why not let the government use the same doctors who examined without pay in the first World War to examine for disability now? Since compensation is allowed for the latter service it seems a just consideration.

We appreciated the ad in the last issue from the Borden Company. Borden milk should be mighty good, keeping in mind the interest the company has in Mississippi and the South. "Scratch the man's back who scratches yours" is within the constitutional rights of any citizen within our democracy.

It is good for the country doctor to go to New Orleans, Chicago and New York for postgraduate work and it is quite as important for the city professor to spend a few weeks on Yellow Rabbit and Vinegar Bend securing valuable information first hand.

Don't forget our case report department. We had two nice reports last month. We are glad to have a case report from any one of our readers. We are especially glad to have them from out on the medical firing line.

Make your reservation now for the state meeting. The Buena Vista Hotel is headquarters. The time is May 13, 14, 15. If you plan to stop at the headquarters don't wait too long to make your reservation.

Every intern in the land should have three months of his time in a twenty-five bed hospital to transport him from guinea pig to human practice.

The strength of our nation in the future depends largely upon the decentralization of industry, medicine, and education.

The person who has money to go two hundred miles to a charity hospital is not charity. The delay also is very expensive.

Everything being equal we will appreciate your trading with the houses which advertise in THE MISSISSIPPI DOCTOR.

Be sure to pay your dues to your local and state society. This is your medical Bible duty.

The fifty-sixth annual session of the Mid-South Postgraduate Medical Assembly was held in the Peabody Hotel in Memphis, February 11, 12, 13 and 14. There were twenty-four lectures of one hour each and round-table discussions each day at luncheon time. These lectures were delivered by outstanding men from almost every section of the United States. All of these men are recognized as authorities on the subjects discussed. In my thinking this annual meeting affords the best opportunity to get what is latest and best in medical thought and teaching that is available to this section of the country. I heard every one of these lectures but the last one, and that subject was of special interest to me. Hence it was with keen regret that I missed it. The feature of the meeting that was most pleasing to me (not counting the pleasure of meeting many of my best friends) was the fact that simplicity and practicality was the keynote all the way down the line. There was, almost, total absence of all effort at self-exploitation. There was no new and unecessary technique for sale. There were a few highly technical papers among those on internal medicine, but they are necessary for the proper teaching of recent advances. I was particularly impressed with the tendency to omit any and all unnecessary steps or procedures in surgery and obstetrics. The reason advanced for this tendency was that much surgery that has been done is entirely unnecessary and that obstetrics, or rather labor, is in the vast majority of instances, wholly physiological and should not be interfered with. The closing sentence in the most practical lecture I remember ever to have heard was the statement that about all that was necessary was the tying of the cord. One evidence that medicine is progressing is that no mention was made of typhoid fever, diphtheria, pneumonia and appendicitis. Again it is probable that one dollar would buy all the medicine mentioned except some of the new and high-priced proprietary preparations. And these were mentioned to caution against overuse of them and against permitting the very agreeable young men who are detailing them from assuming the right to teach us medicine. Much credit was due to the committees and especially Dr. Cooper who is so well fitted for the duties devolving upon a secretary. Again much help was and always has been given by THE MISSISSIPPI DOCTOR, the splendid journal published by Dr. W. H. Anderson. This journal is probably the ablest published in the United States by a country doctor and in a small country town. The Assembly expressed its appreciation of this journal by voting a nice honorarium. Besides this a large number of the registrants subscribed to the journal. In this they were wise for all the papers read will be published in this journal during the current year.

—G. S. B.

(Dr. L. L. Minor very kindly compiled and sent in the following excerpts from the lectures before the Mid-South Assembly).

The fifty-sixth annual session of the Mid-South Medical Assembly was a most successful meeting.

Among the engaging speakers was Dr. Buford G. Hamilton, of the University of Kansas, who stated, "The philosophy of the old negro servant who said, 'When an apple is ripe, it falls,' should be that of doctors who bring babies into the world." He urges caution with delivery by too early use of drugs or other false inductions. He discounts the overtime baby.

Dr. Elmer L. Sevringhaus, of the University of Wisconsin, said, "Obesity is not a secret of nature, it is the result of eating more food than you use up; you can't gain weight unless you eat more fats, carbohydrates and proteins than you work off.

"The reason people tend to get heavier as they grow older is because they eat more and work less. I advocate that people eat less wheat and corn and more fruit and vegetables. Diet is something that must be done a long time and the so-called 17-day diet is fiction if one is going to lose weight."

Dr. Milton Friedman, of New York University Medical School, said, 'A large number of endocrine disorders, not successfully treated with injections, may be corrected by judicious use of the x-ray. Along this line the most striking result was among women who were sterile because certain female organs were not functioning properly, also in non-cancerous breast tumors, and the adrenal gland in young girls who fail to develop normally."

Dr. Paul R. Cannon, of the University of Chicago, warned against careless use of nose drops and urged an investigation of the entire question of intranasal medicine. Lipid pneumonia, he said, is caused by the presence of oily materials in the lungs. There was quite a lively discussion, pro and con, a number of doctors taking part. Dr. Cannon stated that babies are more susceptible to danger than grown-ups because they are usually lying on their backs when the drops are injected, facilitating progress to the lungs. In chronic cases, a vicious circle often results. Presence of oil in the lungs causes the patient to cough. For that reason he takes more nasal oil or sprays his nose, making his condition more serious. Dr. Cannon lays the blame for the widespread practice of such self-medication on physicians, manufacturers and the public alike.

Maj. Gen. James C. Magee, surgeon general of the United States Army, said, "The Medical Corps is doing everything possible to safeguard the health of the men called to service and from the thorough examinations made on the selectees many diseases may be checked and much valuable information gleaned. The response of organized medicine has been splendid, doing an excellent job in classifying all medical men as to qualifications and availability for service. Under the present policy, the Army is restricted in filling its needs for medical men to the Organized Reserves, but to care for all the men in service adequately, many physicians will be required. There is no other source and it will necessitate numerous adjustments on the part of both physicians and patients. Our office, however, will make every effort to work as little hardship on a community as possible."

Dr. F. W. Schlutz, of the University of Chicago, urged physicians to have their patients use more "natural foods." We would be wise to turn from excessive refinement of our foods and return to the more crude, but not less wholesome, products of our forefathers without the destructive processing now so commonly in use. This is certainly true of wheat flour and rice, two products so widely used all over the world.Would it not be sensible to obtain our essential vitamins from natural foods as far as possible? In that form they are cheaper, more palatable and in better balance with other factors. Our environment during the past few decades has become limited to the grocery store and the drug store. Our natural foods are packaged and devitalized and the vital elements so necessary to our well-being are sold in the drug store."

Dr. Claude C. Cody, of Houston, Texas, in speaking of the treatment of the diseases of the middle ear in children, warned that the magic of sulfanilamide is not in the drug but in its proper use. The physician who would prescribe epsom salts for a stomach ailment and the one who would permit him to take the drug indiscriminately, without diagnosis, are in the same category."

Dr. Clyde M. Speck, of Whitfield, is the new president and Dr. J. J. Kazar, of Tchula, vice-president for Mississippi.

Counting physicians, internes, nurses and others nigh a thousand were present. There is no better sectional medical gathering than the Mid-South Medical Assembly.

News and Comments

The Tallahatchie Hospital at Charleston, Miss., has been named an active member of the American Hospital Association. Dr. Paul R. Googe is surgeon in charge.

The Postgraduate Surgical Assembly of The Southeastern Surgical Congress will be held at Richmond, Va., March 10, 11, 12, at the John Marshall Hotel.

A "postgraduate" Institute of Industrial Hygiene will be held in Pittsburgh, May 5 to 9, at Hotel William Penn. The Institute marks the twenty-sixth annual meeting of the American Association of Industrial Physicians and Surgeons, and the second annual meeting of the American Industrial Hygiene Association.

The American Association for the Study of Goiter is again offering the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the association in Boston, on May 26, 27, 28.

It has recently been announced that the Registry of Medical Technologists of the American Society of Clinical Pathologists has been moved from Denver, Colorado, to Muncie, Indiana. The Registry will be held at the Ball Memorial Hospital at Muncie. Dr. Ball G. Montgomery, pathologist of Ball Memorial Hospital, is chairman of the Board of Registry, succeeding Dr. Hillkowitz, who resigned on account of ill health.

Dr. Estelle Magiera, former psychiatrist at the Mississippi State Hospital at Whitfield and lately associated with the Hartford Retreat, mental hospital at Hartford, Conn., has been added to the State Board of Health staff. Dr. Magiera will take three months' training at the Board of Health field training unit at Meridian. After completing this course, she will study public health work at either Vanderbilt University or John Hopkins University, and later be assigned to county health work.

Dr. Russell R. Welch died at his home in

Jackson, Miss., January 21, following n extended illness. Dr. Welch was a native of Covington County. He was a well-known psychiatrist, owned and operated Welch Sanitarium; had been assistant superintendent of the Mississippi State Hospital and also superintendent of the East Mississippi Hospital at Meridian. He is survived by his wife, two daughters, one son and two brothers.

Dr. Edgar B. Provine, 66, one of Grenada's most prominent physicians for the past 20 years, died at his home Wednesday, March 5. He had been in ill health for more than a year, but had been confined to his home only a few weeks. Dr. Provine graduated from the University of Mississippi in 1896 and studied medicine two years in Louisville, Ky., before entering the Memphis Medical School. He was a member of the Baptist church. Surviving are his wife, two daughters, six sons, one sister and four brothers.

Dr. J. Sidney Eason died at his home in Verona Monday night following a heart attack. He was 56. Dr. Eason had moved to Verona only a year ago from Mansfield, La., after spending most of his life in Coldwater, where the old Eason home is located. He is survived by his wife and one daughter, Miss Eugenia Eason of Shaw, one brother, Dr. W. H. Eason, Tupelo, and two sisters, Mrs. Emma Hall and Mrs. Betty Callicut, both of Memphis. Funeral services were held at Coldwater March 4.

Dr. M. W. Robertson, Corinth, Miss., died March 2 after a few hours' illness. He was stricken while on a call in the country from Corinth. He entered the practice of medicine at Rienzi in 1920, following a World War record. At the outbreak of the World War he volunteered and had a brilliant record. He was wounded. He served with the British Army and later was with the 47th Division of the British expeditionary forces in France, seeing service at Chambrae, the Somme defensive in 1937, and the Somme offensive in the same year. Later, he saw active service at Lys. He served Alcorn County for several years as county health officer. He was a member of the Baptist Church, Perry A. Jones Post, American Legion, and the Woodmen of the World. Active in American Legion affairs, he had served two terms as post commander and was a past commander of the Department of Mississippi.

He is survived by his wife, three daughters, and two sons.

COMING MEDICAL MEETINGS

Mississippi State Medical Association, Biloxi, May 13, 14, 15.

Tennessee State Medical Association, Nashville,April 8, 9, 10.

Arkansas State Medical Society, Little Rock, April 14, 15, 16.

American Medical Association, Cleveland, June 2-6.

Southern Medical Association, St. Louis, Mo., November 11-14.

Southeastern Surgical Congress, Richmond, Va., March 10, 11, 12.

American College of Physicians, Boston, April 21-25.

EXHIBITORS

Mississippi Medical Association Convention 1941

Hotel Buena Vista—Biloxi, Miss.

Kay Surgical, Memphis, Tenn.

J. A. Majors, New Orleans, La.

Surgical Equipment Co., New Orleans, La.

General Electric X-Ray Corporation, New Orleans, La.

E. R. Squibb & Son, New York City.

Mead Johnson & Co., Evansville, Indiana.

American Surgical Supply Co., Jackson, Miss.

Eli Lilly Company, Indianapolis, Indiana.

E. L. Mercere, Memphis, Tenn.

Van-Antwerp Aldridge Drug Co., Mobile, Ala.

A. S. Aloe Company, St. Louis, Mo.

Southern Surgical Supply Company, New Orleans, La.

The Borden Company, New York City.

McKesson Robbins, Birmingham, Ala.

Lederle Laboratories, New Orleans, La.

J. B. Lippincott Co., Philadelphia, Pa.

Nestles Milk Company, New York City.

Holland Rantos Inc., New York City.

Dick X-Ray Company, Memphis, Tenn.

The above exhibitors have already secured space at the Hotel Buena Vista for the Mississippi State Medical Association, May 13, 14, 15. Give them a cordial hand at the meeting. Dr. B. B. O'Mara is in charge of the commercial exhibits.

WEST POINT TWINS GET 'SULFA' NAMES

Add signs of the march of progress:

A negro family has named newborn twins "Sulfanilamide" and "Sulfapyridine."

HOUSTON HOSPITAL STAFF MEETING

Houston Hospital Staff Meeting for February was held in the Hospital Lobby Thursday evening, February 27, at 7:00 P.M.

Guest speakers for the evening were Dr. E. M. Holder, professor of surgery, University of Tennessee, and Dr. Henry B. Gotten, department of medicine, University of Tennessee. Dr. Holder's lecture, "Signs and Symptoms of the Acute Surgical Abdomen," was illustrated by slides. Dr. Gotten spoke on "Practical Points in Treatment of Diabetes."

Both papers were briefly discussed by various doctors present.

The following were present:

Dr. Henry B. Gotten, Memphis; Dr. E. M. Holder, Memphis; Dr. and Mrs. J. A. Hardin, Calhoun City; Dr. Walker, Houlka; Dr. and Mrs. J. James, Ackerman; Dr. R. P. Donaldson, Pontotoc; Dr. J. S. McNeal, Mantee; Dr. B. J. Shaw, Slate Springs; Rev. W. C. Stewart, Houston; Dr. E. F. Arnold, Bell Fontaine; Dr. and Mrs. J. R. Williams, Houston; Rev. George R. Williams, Houston; Dr. G. G. Armstrong, Houston; Dr. and Mrs. S. K. Gore, Houston; Dr. E. B. Young, Vardaman; Dr. A. J. Stacy, Tupelo; Dr. O. B. Crocker, Bruce; Dr. J. S. Edmondson, Vardaman; Dr. and Mrs. E. K. Guinn, Okolona; Dr. and Mrs. Philpot, Houston; Dr. and Mrs. J. M. Hood, Houlka.

FORM MEDICAL PARTNERSHIP

The medical partnership of Dr. F. G. Riley and his nephew, Dr. R. L. Rhymes, who has established joint offices with Dr. Riley in the main building of the Riley Hospital, is announced. Dr. Rhymes will be associated with Dr. Riley in the practice of medicine and surgery, and as assistant to Dr. Riley in the treatment of children.

Dr. Rhymes received his B.S. degree at the University of Mississippi and in 1931 completed his first two years of medicine at the same institution. He received his M.D. degree at Emory University in 1933 and the following year served as intern at Grady Hospital, the city and county charity hospital in Atlanta, Ga. In 1934-35 he was senior intern at Jefferson Davis Hospital in Houston, Tex., and he served an additional year as resident physician in medicine and surgery in the same hospital.

In 1936, Dr. Rhymes opened his office at the Riley Hospital annex and practiced medicine and surgery until he was appointed to the staff of the East Mississippi State Hospital in Meridian. Here he served as surgeon and staff physician for the past three years.

Dr. Rhymes, on entering the partnership with Dr. Riley, will practice medicine and surgery and serve as staff surgeon at the East Mississippi State Hospital.

He will also continue the weekly pneumothorax clinics for the treatment of tuberculosis at the Lauderdale County Health Department, which were recently begun in co-operation with Dr. C. N. Knight, county health officer.

In April and May of this year, Dr. Rhymes will be in New York for a postgraduate course in diseases of the chest at Bellevue Hospital.

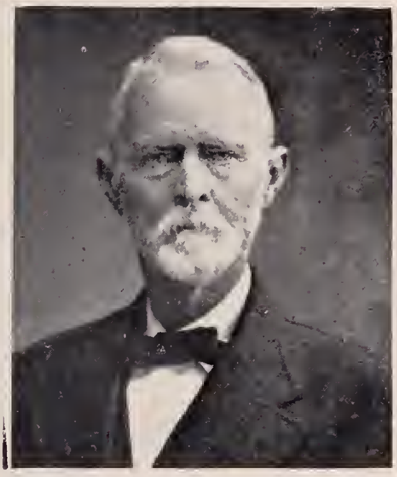
DR. CHARLES H. LUTTERLOH

Dr. Charles H. Lutterloh, 236 Central Ave., Hot Springs, Ark., the president-elect of the Mid-South Postgraduate Medical Assembly. This honor was worthily bestowed upon Dr. Lutterloh at its last meeting in February. He is a graduate of Tulane Medical School, a fellow of the American College of Physicians, a diplomate of the American Board of Internal Medicine, and a member American Rheumatism Association, besides his state organization.

Dr. Lutterloh is one of the very fine and able young men of the profession in Arkansas. He has fine medical ideals and is well balanced in every way. He is a progressive but safe leader in organized medicine. In manner and in deed Dr. Lutterloh breathes the soul of medicine. The Mid-South will be proud of his leadership.

Lived in the Same Northeast Mississippi Country House

DR. W. G. GAMBLE



Dr. W. G. Gamble, native of Alabama, born March 9, 1834, graduated from the University of Alabama and then received his degree in medicine from Tulane in 1859. He practiced in Alabama and volunteered for service in the War Between the States from his native state, serving in the medical corps. In 1870 he moved to Mississippi and bought the Holder plantation. Two years later he married Miss Iva Agnew. To the union seven children were born, of whom four still survive. Dr. Gamble practised medicine at Guntown for over fifty years. He died on July 11, 1920, at the age of 86.

DR. E. M. HOLDER

Dr. E. M. Holder, of Memphis, president-elect of the Shelby County Medical Society. A native of northeast Mississippi, he was born in the same house as were Drs. Hugh and Paul Gamble.

From the standpoint of native ability, training, and experience Dr. Holder is very outstanding in the Mid-South. His surgical ability and integrity we are sure have never been questioned. But he is the type of man who if he should make a mistake would profit by it. On one occasion it is said that he was just ready to operate upon a lady from down in the Delta. Not knowing her husband had died, he remarked, "Mrs. J—, has your husband come up"? It was after much persuasion that the lady consented for him to go ahead with the operation. Since that time he has been very careful about his prepositions, always saying, "Has your husband come down?" when in the least doubt.

DR. HUGH GAMBLE

Dr. Hugh Gamble, president of the Delta Medical Society, past-president of the Mississippi Medical Association, past-president of the Mississippi State Hospital Association. He has been very active in organized medicine. He is a senior member of the large new Gamble Bros., Archer Clinic of Greenville.

This house is the "revised" edition of the old Holder home at Birmingham, small village a few miles west of Guntown. Over to the right in the background the old oak grove which originally enhanced the site still remains. In this house Dr. E. M. Holder, of Memphis, was born and reared and so were Drs. Hugh and Paul Gamble, of Greenville.

Dr. W.G. Gamble, the father of Hugh and Paul, was born March 9, 1834, in Wilcox County, Ala. He moved to Mississippi and purchased the Holder plantation in 1870. Dr. Hugh Gamble has a son, Dr. Lyne S. Gamble, who graduated at Vanderbilt and took special work at the Mayo Clinic, interning at Charity Hospital in New Orleans and completing his specialty at the University of Pennsylvania, Pa. This old place is now owned and occupied by Mr. Bill Payne.

BIRTHPLACE OF PROMINENT PHYSICIANS

Standing: Mrs. H. N. Crenshaw, Guntown, Miss.; Mrs. A. E. Hollandsworth, Jacinto, Miss.; Dr. J. A. Majors, Dallas, Texas; Dr. W. H. Anderson, Booneville, Miss.

In this picture from left to right you see Mrs. N. H. Crenshaw, of Guntown, daughter of Dr. W. G. Gamble, and sister to Drs. Hugh and Paul; next is Mrs. E. A. Hollandsworth, of Jacinto, sister to Dr. J. A. Majors and mother-in-law of Dr. Hayden Sutherland, of Booneville. Next is Dr. J. A. Majors, of Dallas, Texas, a native of Booneville, Miss., a cousin of Drs. Paul and Hugh Gamble. Every doctor in the South knows J. A. Majors Book Company, at New Orleans and Dallas. It handles W. B. Saunders Books and others as well. No one in the nation perhaps knows more doctors than Dr. Majors. Always bubbling over with good cheer, good fellowship, and good will, his cordial handshake always does good like a medicine. He never forgets the friends of his childhood, a trait indicative of a big man. Last is W. H. Anderson, of Booneville. Over to the right is a colored friend who was picked up as a guide for the party. He is evidently a nephew of Andy of radio fame. His type is rich and rare. The faithful yard dog is probably some of the dependable Holder stock brought down. A big group of fine mules, not shown in the picture, were hard by in the lot. One might still sense the antebellum society in the colored man, the dog, the mules and the mighty oaks and feel the invigorating medical atmosphere on this country ridge, which produced Dr. Holder, now president-elect of Shelby County Medical Society, and Dr. Hugh Gamble, president of the Delta Medical Society.

Dr. Edgar Burns, president-elect of Orleans Parish Medical Society, was born just a few miles away over Alabama line.

BOOK REVIEWS

What Price Alcohol?, by Robert s. Carroll, is a most interesting book. It is timely and should be of great service at this time. The consumption of alcohol is incompatible with the machine age in which we live. Dr. Carroll states that insurance rejections have increased from 12 to 34 per cent on account of "heavy alcoholic indulgence." The committee from the American Medical Association on the study of motor vehicle deaths came to the conclusion that if a man has .15 of one per cent alcohol in his blood that he is fifty-five times as likely to have a serious accident out on the highway driving a car as the one who has none. It is estimated that the cost of alcohol amounts to $150 for every family in the United States each year. With state medicine facing the medical profession this cost problem is one for serious consideration by the doctors. Dr. Carroll treats alcohol as a human problem of health and conduct. He advances the idea of many people being "allergic" to alcohol. He handles the subject in a scientific manner keeping in mind its social and economical relation to human society. Surely every doctor not having a sufficient "blood-brain-barrier" in the land should have this book and study it very carefully. It is published by The Macmillan Company, New York. The price is $3.00.

Psychiatry for Nurses, written by Dr. Louis J. Karnosh and Edith B. Gage, R.N., is a timely book. The authors are well qualified to write such a book and the need for such a book is unquestioned. The book contains the pith of the subject. The basic elements are expressed in a concrete and practical manner. The mental ailments are discussed in proportion to their frequency and importance. The importance of case history is emphasized. Attempt is made to inspire nurses to understand and to make further investigation on such subjects as mental hygiene, vocational guidance, and administrative and nursing work with children.

In the United States we have 166,000 more beds for the mentally sick than we do in general hospitals. This should be evidence that a book for nurses well written to furnish the essentials of the subject in a few words and to inspire to further study is very greatly needed. This book of 325 pages with many pictures and illustrations does just this.

Send your order to the C. V. Mosby Co., St. Louis, Mo. The price is $2.75.

HEADS ORLEANS PARISH SOCIETY

Dr. Edgar Burns, of New Orleans, a native of Allsboro, Ala., just over the Mississippi-Alabama line. Dr. Burns took his first two years in medicine at the University of Mississippi, the last two in Northwestern University, graduating in 1922. He interned in Memphis and spent four years as assistant in the department of surgery at the University of Tennessee. After this time he went to New Orleans and associated himself with Dr. Joe Hume in urology. For ten years now he has been prominently connected with medical teaching in Tulane and Charity Hospital. He is now assistant professor in Tulane in urology, attending urologist in Charity Hospital and senior urologist at Turo Infirmary.

Dr. Burns is also president-elect of the Orleans Parish Medical Society. He recently spoke to the Northeast Mississippi Hospital staff at Booneville and the North Mississippi Medical Society at Oxford. He speaks with authority, decision and clearness.

NEW OFFICES

We would call your attention to the change in address in the courtesy cards of Dr. G. J. Levy and Dr. W. L. Williams. These doctors now have offices in the Methodist Hospital Doctors Building, 188 Bellevue, Memphis, Tenn.

FOR SALE: One set of treatment room furniture, Allisons walnut. In excellent condition, used only about six months. Also microscope, sterilizer and other equipment. Write Mrs. Earl Kaigler,Shaw, Miss.

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PAST-PRESIDENTS CLUB MID-SOUTH POSTGRADUATE MEDICAL ASSEMBLY

Reading from left to right: 1. Dr. A. F. Cooper, (honorary), Memphis; 2. Dr. E. R. McLean, Cleveland, Miss.; 3. Dr. B. C. Arnold, Jackson, Tenn.; 4. Dr. Clyde M. Speck, Whitfield, president-elect; 5. Dr. C. R. Crutchfield, Nashville; 6. Dr. Jere L. Crook, Jackson, Tenn.; 7. Dr. L. H. McDaniel, Tyronza, Ark.; 8. Dr. A. G. Hudson, Memphis; 9. Dr. J. B. McElroy, Memphis; 10. Dr. Francis D. Murphy, Milwaukee, Wis., guest; 11. Dr. J. L. Dunavant, Ripley, Tenn.; 12. Dr. John Darrington, Yazoo City, Miss.; 13. Dr. P. W. Rowland, Oxford, Miss.; 14. Dr. Allen E. Cox, Helena, Ark.; 15. Dr. N. S. Walker, Dyersburg, Tenn.; 16. Dr. V. B. Philpot, Houston, Miss.; 17. Dr. W. H. Anderson, Booneville, Miss.; 18. Dr. H. Fay H. Jones, Little Rock, Ark.; 19. Dr. P. W. Lutterloh, Jonesboro, Ark.; 20. Dr. H. King Wade, Hot Springs, Ark.; and 21. Dr. Lawrence W. Long, Jackson, Miss.

Only four members of the club were absent: Dr. J. W. Barksdale, Jackson, Miss.; Dr. C. M. Harwell, Osceola, Ark.; Dr. F. L. Husbands, Blytheville, Ark.; and Dr. F. J. Runyon, Clarksville, Tenn.

Mississippi State Medical Association

Organized 1867

Next Meeting: May, 1941, Biloxi

OFFICERS

President—W. H. Anderson, Booneville
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Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—V. B. Philpot, Houston
Hygiene and Public Health—Paul T. Haney, Laurel
Medicine—A. H. Little, Oxford
E. E. N. and T.—D. W. Hamrick, Corinth

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. R. Brumfield, Gloster	Anderson Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	W. E. Noblin, Sr., Jackson	H. C. Ricks, Jackson	·First Tuesday 7:30 p. m. Omit July and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	J. A. Slack, Friars Point	Guy R. Post, Clarksdale	1st Wed. March and Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	C. H. McCall, Gulfport	D. L. Hollis, Biloxi	
Delta Medical	H. A. Gamble, Greenville	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. A. Kirk, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley,	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct
Northeast Miss.	H. L. Scales, Jr., Starkville	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr., Hattiesburg	3rd Tues., Mch., June, Sept., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal,	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—S. S. McNair, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

ULCERS OF THE LEGS IN SICKLE CELL ANEMIA, Clyde L. Cummer, M.D., and Charles G. La Rocco, M.D., Archives of Dermatology and Syphilology, Vol. 42, No. 6, p. 1015.

Ulcers of the legs often present difficulty in differential diagnosis. This article deals with a short history of sickle cell anemia, and according to Cordozo's recent studies 7.8 per cent of the colored race show sickle cells in the peripheral blood though by no means all of this number are anemic. The disease when it does not produce anemia has been called sicklemia, meniscocytosis, and drepanocytosis. The line between symptomless sickle cell anemia and the stage producing symptoms is not clearly drawn.

The sickling trait is familial and apparently hereditary, dominant in character and transmitted according to Mendelian law. It can and does occur in white races, though it was thought at first to be a disease peculiar to the colored race.

The subjective symptoms are weakness and general poor health. The objective symptoms are greenish yellow sclerae, heart murmurs, enlargement of the liver, adenopathy, abdominal pain, enlarged heart, ulcers of the leg, pulmonary disease, fever, enlarged spleen, vomiting and infantile genitalia.

The pathologic changes are sickled erythrocytes, congestion of the capillaries, thrombi, fibrosis, retention jaundice, deposits of pigment in the liver, spleen, bone marrow, lymph nodes, and kidney, hyperplasia of the bone marrow, a regenerative blood picture and degenerative visceral changes. These are not all of the changes.

The examination of the blood for sickling can be made by putting a small drop of blood on a slide and covering with a thin cover slip. The edges of the slip are then sealed onto the slide with white vaseline and the slide kept for several days to study for sickling.

The ulcers appear as a punched out type of lesion, and may be unilateral or bilateral and are located usually near the ankle. The size ranges from a quarter to a dollar or larger. They may be shallow or deep, oval or round. The borders may be elevated and irregular. The resulting scars are atrophic, smooth, glossy, depigmented, and usually surrounded by a pigmented border, or areola.

My intention in calling attention to this article is to stimulate interest in a disease that is possibly more prevalent in our state than we realize, and to cause us to consider sickle cell anemia when we have a chronic leg ulcer in an apparently normal young individual, especially in the colored race.

PEDIATRICS

ENDEMIC RIBOFLAVIN DEFICIENCY IN INFANTS AND CHILDREN, Tom D. Spies, William B. Bean, Richard W. Vilter and Nelwyn E. Huff, American Journal of the Medical Sciences, 200:697 (November) 1940.

"Repeated clinical, laboratory and dietary studies on 241 infants and children having characteristic riboflavin deficiency" have convinced the writers "that it is the most common clinical deficiency disease among infants and children in an area in Alabama in which deficiency diseases are endemic."

The clinical diagnosis of riboflavin deficiency was made only if one or more of the lesions characteristic of this deficiency were present. "These lesions which in children appear similar to those seen in adults, include "cheilosis," the reddened macerated areas at the angles of the mouth and the linear lesions first described as responding to riboflavin by

Sebrell and Butler, and the ocular symptoms characterized by bulbar conjunctivitis, lacrimation, burning of the eyes and failing vision, first found to respond to riboflavin by Spies, Vilter and Ashe."

In children ranging in age from 5 months to 14 years, the writers observed cheilosis in 113 cases, linear lesions in 93, and ocular manifestations in 167. "These children were usually underweight, under-developed for their age. Many of them were apathetic and indifferent and had made poor progress in school. Frequently they complained of their mouths being sore and their eyes burning and itching. The order of appearance of these symptoms was extremely variable and all did not occur in every case. Some children had advanced lesions of the eyes, and had no lesions of the corners of the mouth; others had severe mouth lesions whereas the eye lesions were slight. All these symptoms waxed and waned with the seasons and with changes in the quality of the dietary, but they appeared most frequently during the spring and summer. The response of children with riboflavin deficiency to synthetic riboflavin or to substance rich in it was gratifying. The cheilosis healed rapidly, the ocular symptoms disappeared, and the general health of the children improved. Unless therapy was continued or the diet improved, the disease tended to recur.

Laboratory findings showed that riboflavin is a normal excretory product when the diet is adequate, but when a severe deficiency exists the amount excreted is greatly diminished. When the dietary intake is very low the excretion may for a time exceed the intake and, conversely, on a high intake the excretion may lag behind. In the absence of therapy, all the patients with advanced diagnostic lesions excreted less than normal persons of the same age, sex and size.

"The dietary studies showed that almost without exception the mothers of these children had subsisted on grossly inadequate diets during pregnancy and lactation. In some cases the mother's milk supply had been so meager that the infant was weaned soon after birth and given food which was inadequate for its nutrition needs, while in others the child nursed until it was two or three years of age. In every instance they began eating food from the family food supply at the age of two or three months and were allowed to choose whatever foods they desired. The foods usually selected. because they are the ones most commonly used by the family, were biscuit, cornbread, gravy and syrup. Realizing that riboflavin is widely distributed in natural foodstuffs, the writers were surprised to find a deficiency of this substance so common. However, repeated dietary studies showed that the majority of infants and children in this study received only 35 per cent of their estimated requirement.

"The average case responds satisfactorily to the oral administration of 1 mg. of riboflavin t.i.d. or 1 ounce of brewers yeast or liver extract daily. These substances have been given a sufficient period of time to warrant no hesitancy in recommending them as safe and effective therapeutic agents for the treatment of mother, infant and child. Despite the fact that the lesions of riboflavin were relieved while the general diet remained the same," the writers recommend the addition of liver, lean meat, and milk whenever possible."

COMMENT

The study of riboflavin deficiency in infants and children has revealed a number of very prominent symptoms seen in the daily practice of medicine. Since we are making a closer study of the vitamin deficiencies, I feel that this paper is well worth the time that it takes to read it. —H. F. G.

State Board of Health

Felix J. Underwood, M.D.

PUBLIC HEALTH AND NATIONAL DEFENSE AT CAMP SHELBY*

Paul T.Erickson, P. A. Surgeon, U.S.P.H.S.
Assistant Supervisor of Venereal Disease Control, Mississippi State Board of Health

Incident to the present national emergency, the rearmament program, the mobilization of the National Guard and Organized Reserves, and the Selective Service Draft, a number of defense projects have recently come to Mississippi. The largest and most important of these is the construction of an Army Training Center on the Camp Shelby military reservation located in Forrest County about 11 miles southeast of Hattiesburg.

Camp Shelby was one of the larger mobilization centers during the World War, 1917-1919. It had an excellent health record at that time. The mortality rate for the period from April, 1917, to December, 1919, was 6.29 per 100. This was lower than that of any other camp comparable in size to Camp Shelby.

Since World War days the camp site has been utilized by various National Guard units for summer training purposes. The last unit to train here prior to the present mobilization was the 30th Division of the National Guard. This was for a ten-day period during August, 1940.

A concerted effort by the local health departments in the Camp Shelby area, the State Board of Health, and the United States Public Health Service was made during the August maneuvers to provide full utilization of the available civilian health resources according to the needs of the military forces. A report of the health resources available. the health service put into effect, and the cooperative health activities pursued is available to those who may be interested. A detailed preliminary survey and report of the health resources in the Camp Shelby area was later made by a medical officer and an engineer of the United States Public Health Service.

PROBLEM

Hattiesburg has a population of about 23,000. When a $10,000,000 construction job with orders to complete the project within a few weeks is brought to a city of this size it is not difficult to see how it is going to affect living conditions and consequently the health of such a community. Laborers in ever increasing numbers poured into the Hattiesburg area to seek employment. At the height of construction there were 15,000 employed. A large portion of these workers came from such distances where travel back and forth each day became impractical, and consequently they sought local living accommodations. Obviously, it was an impossibility to accommodate all. Tent and trailer camps blossomed out wherever there was a convenient spot of level ground. Some people living in the locality became temporary food vendors; others, looking toward the future, began construction of permanent rooming houses, restaurants, tourist camps, beer parlors, and dance halls. Men and women of all characters came to seek employment in these new, as well as in old business establishments. Prostitutes and pimps attached themselves to some hotel, rooming house, or "honky tonk" to practice their age old business of prostitution. All of this created important problems of health concern.

About the middle of October the 37th Division of the National Guard arrived from Ohio. This added approximately 10,000 more people to the already crowded conditions. While quarters were waiting the troops at Camp, many, especially officers, brought their families for whom accommodations were sought in and around Hattiesburg. Those who could not find a place to live moved on to surrounding cities, especially Gulfport and Biloxi. Many came in trailers and augmented the already crowded tent and trailer camps.

Camp Shelby when completed is expected to accommodate 52,000 men. The command will reach this strength within the next four months. Accepting an increase in the civilian population of 1⅓ persons to each member of the military establishment, there will be about 121,000 people in addition to those normally living in the Camp Shelby area when the camp reaches its capacity.

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*From a special report covering Extramilitary Zone Health Activities at Camp Shelby. Sept. 15-Dec. 31, 1940.

Mass movements of this nature, bringing individuals from all walks of life from scattered areas of the country together, increase health hazards not only to the migrants themselves, but also to the people who are already or have been for years fixed in the community concerned. This is especially true if adequate sanitary measures are not invoked and precautions against the spread of communicable disease, including venereal disease, are neglected.

AUGMENTATION OF HEALTH RESOURCES NECESSARY

During the August maneuvers it became apparent, as naturally would be expected, that the increase in health control activities required to take care of the military needs fell most heavily upon the Forrest County Health Department, of which Dr. B. D. Blackwelder is director. Therefore, when it became known that a permanent army camp would be constructed at Camp Shelby, provisions were made by local county and city appropriating bodies and the State Board of Health for augmenting the present health department set-up. A tax increase of 1 mill was voted for public health purposes. The budget was increased to take care of the following additional personnel:

1 assistant health officer
2 sanitation inspectors
(one milk inspector)
1 laboratory technician
1 nurse
1 clerk.

HEALTH DEPARTMENT ACTIVITIES

In setting forth the activities designed for the protection of the health of the military and civilian populations in the Camp Shelby area, a special effort will be made wherever possible to compare the activities during a normal period with those during this emergency. For this purpose the activities of the Forrest County Health Department during the last quarter of 1939 will be compared with the activities during the last quarter of 1940. A fairly good idea of the increased demands made upon a health organization near a large mobilization or training center may be secured from such a comparison.

GENERAL SANITATION ACTIVITIES

The immediate problem in the field of sanitation was created by the presence of so many civilian laborers who literally "lived out in the open" at the camp entrance for days in order to be on hand when jobs were offered by the construction company. People living in the neighborhood became temporary food vendors. offering for sale all sorts of edibles at hastily constructed food stands. It was impossible for them to keep their places clean, and no supervision could be exercised over such food handlers by the health department. There was no other way of meeting this situation except to remove forcibly the stands and prohibit temporary food vendors in the area. This action was initiated by the State Board of Health and the Forrest County Health Department in cooperation with the camp military authorities. Two of the best equipped places were allowed to remain to sell bottled goods only, and food wrapped in cellophane or wax paper and known to have come from an approved source. This allayed the criticism that workers were forced to go hungry because of the health departments' action. Follow-up to prohibit further construction of food stands or the selling of unapproved edibles was supplied by the military police and through periodical inspection by the health department.

Wherever tent and trailer camps originated the same problem regarding food was encountered. In order to cope with this problem the health department asked for the passage of a food ordinance requiring periodical inspection of food handling establishments and food handlers, and compliance with State Board of Health regulations. This was granted. Three other counties in the Camp Shelby area have similarly adopted county-wide ordinances for food handling establishments.

The new ordinance requiring modern sewage disposal methods, running water, and approved dish washing facilities in food handling establishments outmoded a large number of places. Increased demands on the health department for assistance by these places and by those contemplating new construction required the full-time of the recently added sanitary inspector in Forrest County. Temporary trailer camps, tent camps, and such places where it was impractical, or, for some other reason, an impossibility to secure running water or construct septic tanks, were required to construct privies. During the three-month period under consideration, 67 privies were built in rural areas in 1939 as compared to 111 in 1940, while the number of urban installations dropped from 52 to 10 (Table I). The increase in rural installations for 1940 was due to the increased demands in the rural areas surrounding the camp. For further comparisons in regard to sanitary constructions for two periods, consult Table I. There was a marked increase in the pressure water supply systems, new water connections, sewer connections and new septic tanks installed. The over all increase in sanitary installations was up 47.5 per cent. The number of field visits (Table II) to new premises, camp sites, and sewerage plant or systems was greatly increased; to schools and water supplies a decrease was registered. Field visits in general increased 20.3 per cent during the 1940 three-month period over the 1939 three-month period.

TABLE I

Comparison of Sanitary Installations During Last Quarter of 1939 and Last Quarter of 1940

	1939	1940	Per Cent Increase
Approved individual water supplies installed	18	21	15.0
Pressure water supply systems installed	10	33	230.0
New water connections installed	54	107	98.1
Approved hand washing facilities	12	25	108.3
Sewer connections installed	31	84	171.1
New privies installed	119	121	1.7
New privies installed (urban)	52	10	
New privies installed (rural)	67	111	
New septic tanks installed	10	20	100.0
Privies restored to approved type	34	14	
Total	288	425	47.5

TABLE II

Comparison of Field Visits Made In Last Quarter of 1939 and Last Quarter of 1940

	1939	1940	Per Cent Increase
New premises registered for sanitary supervision	25	64	156.0
Private premises	233	248	6.4
Complete inspection of public buildings	50	58	16.0
Camp Sites	11	23	109.1
Barber shops and beauty parlors	39	43	10.3
Schools	47	31	
Public water supplies	22	11	
Sewerage plants and systems	13	43	230.7
Nuisance corrections	138	160	16.0
Homes mosquito proofed	47	71	51.0
Total	625	752	20.3

The development of an adequate milk supply for the camp and surrounding community has been one of the important sanitation problems. The milk inspector assigned to Forrest County has worked in the entire area toward securing an adequate approved milk supply.

There is an adequate supply of pasteurized milk for the present strength of command at Camp Shelby. It is expected that within four months when a full complement of 52,000 men will be in training that it will be possible to supply the necessary amount of pasteurized milk, not only for the camp but also enough to take care of civilian requirements.

As soon as an adequate supply of pasteurized milk is available all stores, restaurants, and other food handling establishments that have qualified with Army and public health officials will be required to display a placard. The requirements for the placard are:

1. Only pasteurized grade A milk and similar dairy products may be offered for sale.
2. Only government inspected meat may be offered for sale.
3. Every individual who is engaged in serving or preparing food, whether white or black, must have a food handler's certificate, as issued by the county health authorities.
4. All women employed or habitually frequenting the establishment at all times have in their possession an up-to-date identification card issued by county health authorities.

TABLE III

Comparison of Activities Designed for the Protection of Food and Milk During the Last Quarter of 1939 and the Last Quarter of 1940

	1939	1940	Per Cent Increase
Examination of food handlers	224	1378	515.1
Examination of milk handlers	7	35	400.0
Food handling establishments registering for supervision	13	56	330.7
Field visits to food handling establishments	561	954	70.0
Field visits to dairy farms	95	189	99.0
Dairy farms registering for supervision	0	31	...
Milk and milk products plants registering for supervision	0	5	...
Field visits to milk and milk product plants	3	39	1200.0
Total	903	2687	197.5

Activities for the protection of food and milk increased two-fold during the last three months of 1940 over a similar period in 1939 (Table III).

(To be concluded in next month's issue, when a resume of communicable disease control activities will be given.)

MISCELLANEOUS NOTES

County Health Department Activities:

Lauderdale County reports the following interesting public health achievements in the February "News Letter" of the Health Conservatin Contests:

1. The County Board of Supervisors increased its appropriation to the Health Department, $6,500 for the fiscal year, beginning October 1, 1940. This will enable additions to the staff and will permit the department to carry on a more comprehensive public health program.

2. The Commonwealth Fund of New York City has granted four-month postgraduate fellowships in the diagnosis of tuberculosis to two local physicians in Lauderdale County. These physicians will take this work at Bellevue Hospital under the direction of Dr. J. Bernes Amberson, beginning in April. It is anticipated that this postgraduate training will considerably improve the tuberculosis medical service in Lauderdale County.

3. In July of 1940, the Business and Professional Women's Club was interested in beginning a Cancer Control Program. The interest of the medical society and leading and influential citizens was secured, and shortly thereafter, the Lauderdale County Cancer Control Society was formed, constitution and bylaws prepared and adopted, and the necessary committees appointed. Working with the Community Chest of Meridian, this society secured $3000.00 to begin a Cancer Control Program in Lauderdale County. An intensive and carefully formulated educational program has been inaugurated and free diagnostic and treatment clinics for indigents are being established. This is the first cancer control program to be started in the state of Mississippi.

Public Health Nursing:

In February group conferences were held on methods of teaching, the value and method of preparing reports, and midwifery, for public health nurses of Alcorn, Bolivar, DeSoto, Lauderdale, Lee, Lowndes, Marshall, Monroe, Noxubee, Panola, Prentiss, Tate, Tippah, Tishomingo, Tunica, Union, and Washington counties.

Medical Library:

Foremost on the list of distinguished visitors to the Medical Library during February were Colonel and Mrs. Harold W. Jones, Washington, D. C. Colonel Jones is librarian of the Army Medical Library, world's largest collection of medical literature, and is also president of the Medical Library Association. Colonel Jones commended the Mississippi library's growth and usefulness and promised the full co-operation of the Army Medical Library in meeting the reference needs of state physicians.

He also discussed matters pertaining to the Medical Library Association with the local librarian, Miss Louise Williams, who is serving as chairman of the Membership Committee of the association this year.

* * * *

MEDICAL LIBRARY

Mississippi State Board of Health
New Books Received

(Loans available to state physicians upon request).

Bacteriology and Laboratory Diagnosis:

Craig and Faust: *Clinical Parasitology,* 1940.

Faust, E. C.: *Human Helminthology,* 2nd ed., 1940.

Frobisher, Martin, Jr.: *Fundamentals of Bacteriology,* 1940.

Hegner, Root, Augustine and Huff: *Parasitology,* 1938.

Jordan, Edwin Q.: *A Textbook of General Bacteriology,* 1938.

Rivers, Thomas M.: *Viruses and Virus Diseases,* 1939.

Todd and Sanford: *Clinical Diagnoses by Laboratory Medicine,* 1939.

Topley and Wilson: *Principles of Bacteriology and Immunity,* 1936.

Wadsworth, A. G.: *Standard Methods,* 2nd ed., 1939.

Zinnser and Baynes-Jones: *Textbook of Bacteriology,* 1939.

Biology:

Curtis and Guthrie:*Textbook of General Zoology,* 1938.

Meyer, Arthur W.: *The Rise of Embryology,* 1939.

Plunkett, C. R.: *Elements of Modern Biology,* 1934.

Chemistry:

Bodansky, Meyer: *Introduction to Physiological Chemistry,* 1938.

Bodansky and Bodansky: *Biochemistry of Disease,* 1940.

Cantarow and Trumper: *Clinical Biochemistry,* 1939.

Francis and Morse: *Fundamentals of Chemistry and Applications,* 1939.

Francis and Morse: *Laboratory Manual to Accompany Fundamentals of Chemistry and Applications,* 1940.

Goostray and Karr: *Textbook of Chemistry,* 1940.

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County Societies

DESOTO COUNTY

Rats damage property and produce in the United States to the extent of about $200,000,000 annually! These rodents affect a larger percentage of the world's population than any other pest in existence.

* * * * *

St. Paul's Cathedral in London, although seriously damaged on the interior where the high altar was demolished, was miraculously saved from complete destruction. The damage was localized and the bomb passed through the roof at a point which saved the structure from irreparable damage. Practically all the damage done was to modern work, in which case it will be possible to make the restoration more beautiful than the work which was destroyed. The dean of the Cathedral has received many messages of sympathy from all over the world.

* * * * *

The very capable physicians who are associated with me as examining physician in this county find this work very interesting; we find more rejections or disqualifications from insufficient or bad teeth, defective vision and heart ailments than any other causes. They are largely preventable and the public needs more education along these lines, and the more obedience on the part of the public to wise teachings.

* * * * *

Speak the Good

I will speak ill of no man, not even in the matter of truth, but rather excuse the faults I hear charged upon others, and upon proper occasions speak all the good I know of everybody.—Benjamin Franklin.

—L. L. MINOR.

LAUDERDALE COUNTY

The Lauderdale County Medical Society met in the Blue Room of the Lamar Hotel, Thursday, February 27 at 7 P.M. Dr. Laura O. Williams of Meridian was hostess to the meeting and provided the entertainment and the program. The banquet was served at 7 P.M. Following the banquet, the meeting was called to order by Dr. T. G. Cleveland, president of the society. The feature of the business session was a discussion of plans for entertaining the East Mississippi Medical Society at its meeting here, March 20. Dr. Cleveland appointed the following entertainment committee: G. L. Arrington, chairman; G. A. Rush, Jr., and A. C. Bryan.

The scientific session was featured by a very informative talk by Dr. Virginia Moss of the Department of Pathology, Charity Hospital, New Orleans. Following her talk, a motion picture was shown.

Among other guests present was Dr. Maude M. Gerdes, Director of the Division of Maternal and Child Hygiene of the State Board of Health. N. C. KNIGHT, Editor.

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Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITIES CALENDAR

June—HYGEIA.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Prenatal Care.
April—Cancer.
May—Alcohol.

FOUR-COUNTY UNIT

The Four-County Unit to the Thirteen Counties Auxiliary met March 4 at the home of Mrs. A. J. Stacy in Tupelo. Mrs. Nora Anderson joined her in extending a gracious hospitality.

Mrs. W. H. Cleveland directed an entertaining and informative program which was received with interest. Mrs. Woods and Miss Virginia Shaw were both presented in delightful vocal renditions accompanied by Mrs. Otto at the piano. Following this Dr. W. H. Anderson reviewed some of the duties of doctors' wives whose responsibility it is to help bring information to the laity regarding the problems of the medical profession. He especially stressed the need of protecting and improving the health of rural mothers. Mrs. W. L. Orr gave an article on the country doctor from HYGEIA. It is the policy of the auxiliary to bring something from HYGEIA at each meeting in order to enliven the interest of doctors' wives in the magazine they endeavor to promote.

A delectable afternoon menu was served by the hostesses at the close of the program.

PRENATAL CARE

The doctor's wife should not only be her husband's press agent, but her husband's profession's intelligence commissionaire. To have understanding of the problems facing medicine will provide constant opportunity for enlightening lay groups and carrying health information. It is a wonderful work for her to help show that one-half to two-thirds of maternal deaths from childbirth may be prevented by a physician's prenatal care; that the danger signals of pregnancy are rapid gain in weight, elevated blood pressure and evidence of kidney disease; and that proper nourishment will insure a child free of rickets.

The president of the state association is calling attention to the falling birth rate and depopulation of rural areas. Since the dominant feature of migration within the United States in recent years has been the movement from farms to cities, it is doubly important that the source of our nation's wealth—its ultimate manpower—be protected in the rural mothers who are producing our potential strength. The profession is concerned over the 2,000 or more infants who die yearly in Mississippi. It hangs its head because Mississippi has the highest syphilis rate of any state in the United States, causing 500 stillbirths and 375 babies born debilitated.

Facts about heredity and environment greatly affect health and development. Heredity determines certain characteristics, such as the color of the eyes and hair. It is also a factor in the size of the child and in many other ways. Environment begins to influence the baby long before he is born. In order to provide the best possible environment before birth it is necessary to protect the mother's health; to be sure that she has proper food, exercise, rest and that she is under the supervision of a physician who will early recognize any abnormalities and take the necessary steps to correct them. He will then know in advance whether any difficulties may be expected when the baby is born and will be prepared to meet them. If these precautions are taken the baby should start out in life with a well-developed body and without injuries resulting from a difficult birth.

At no time in the history of our nation has the protection of life been more important than now. Particularly serious is the circumstance now existing that our birth rate scarsely exceeds the death rate.

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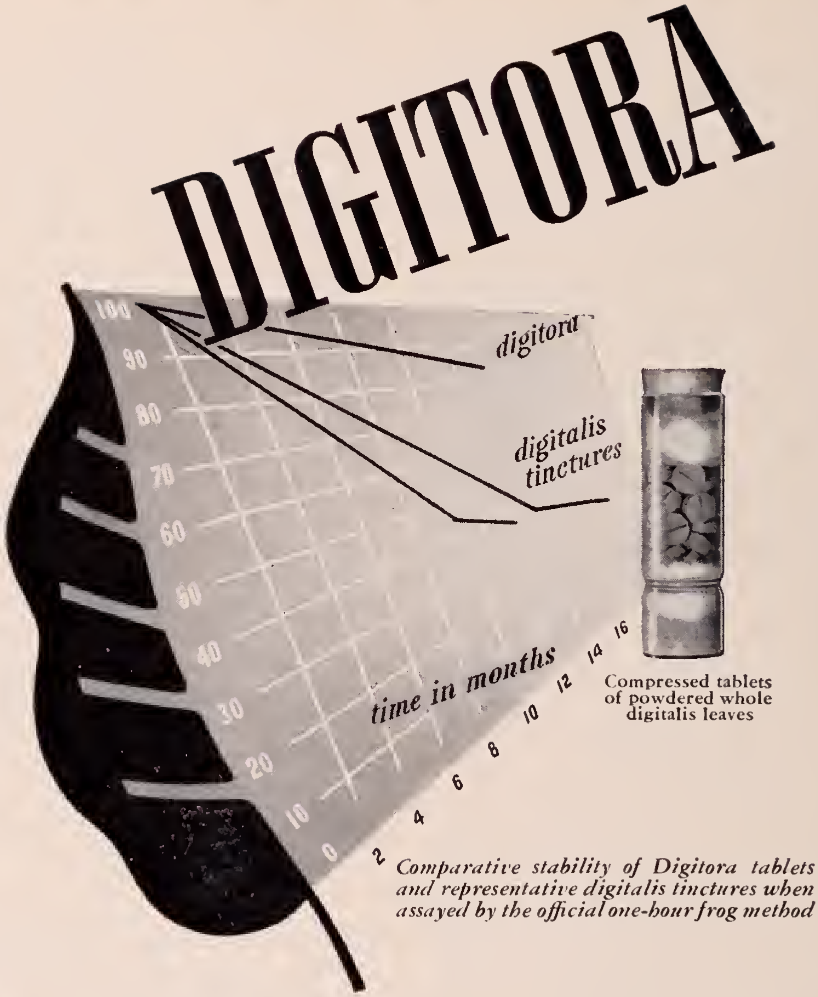
SIGNS

By JEAN LEATHERS PHILLIPS

How do I know that a little girl lives there?
  Why, Dearest, didn't you see
That natty little white playhouse
  Beneath the old apple tree,
And the tea-set on the table,
  The stool and the little high chair,
The mama doll in her carriage,
  And that saucy brown Teddy bear?
And didn't you see on the clothes-line,
  Like so many gay sweet peas,
That row of butterfly dresses
  Dancing about in the breeze?

And how do I know that a little boy lives there?
  Why, Dearest, didn't you see
That tousled terrier puppy
  Smiling his best at me?
And didn't you see that hammer
  And saw and boards and stuff
That boys use in making box scooters?
  Isn't that sign enough?
And besides that, I see a crow's nest,
  A pirate's lookout high
In that towering ancient pine tree
  Against the blue, blue sky.

And there is the bull's eye target
  On the side of the club-house shack,
And a bow and a handful of arrows,
  And there in the dust is the track
Of a lean bare foot that no other
  Than a regular fellow would claim.
Yes, sir, a real boy lives there,
  Though I could not tell you his name.



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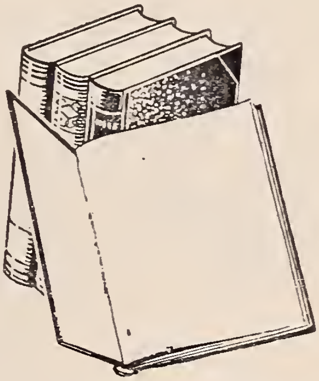

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Section II—The Quest for the Cause of Pellagra—A Historical Review
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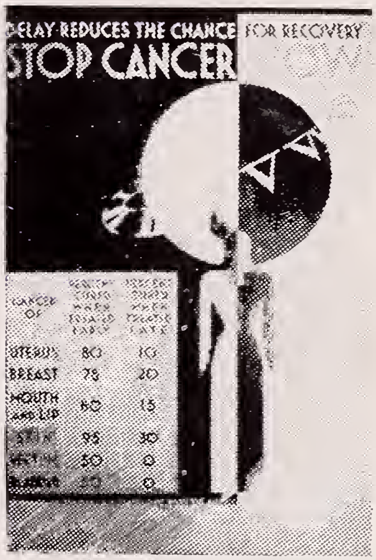
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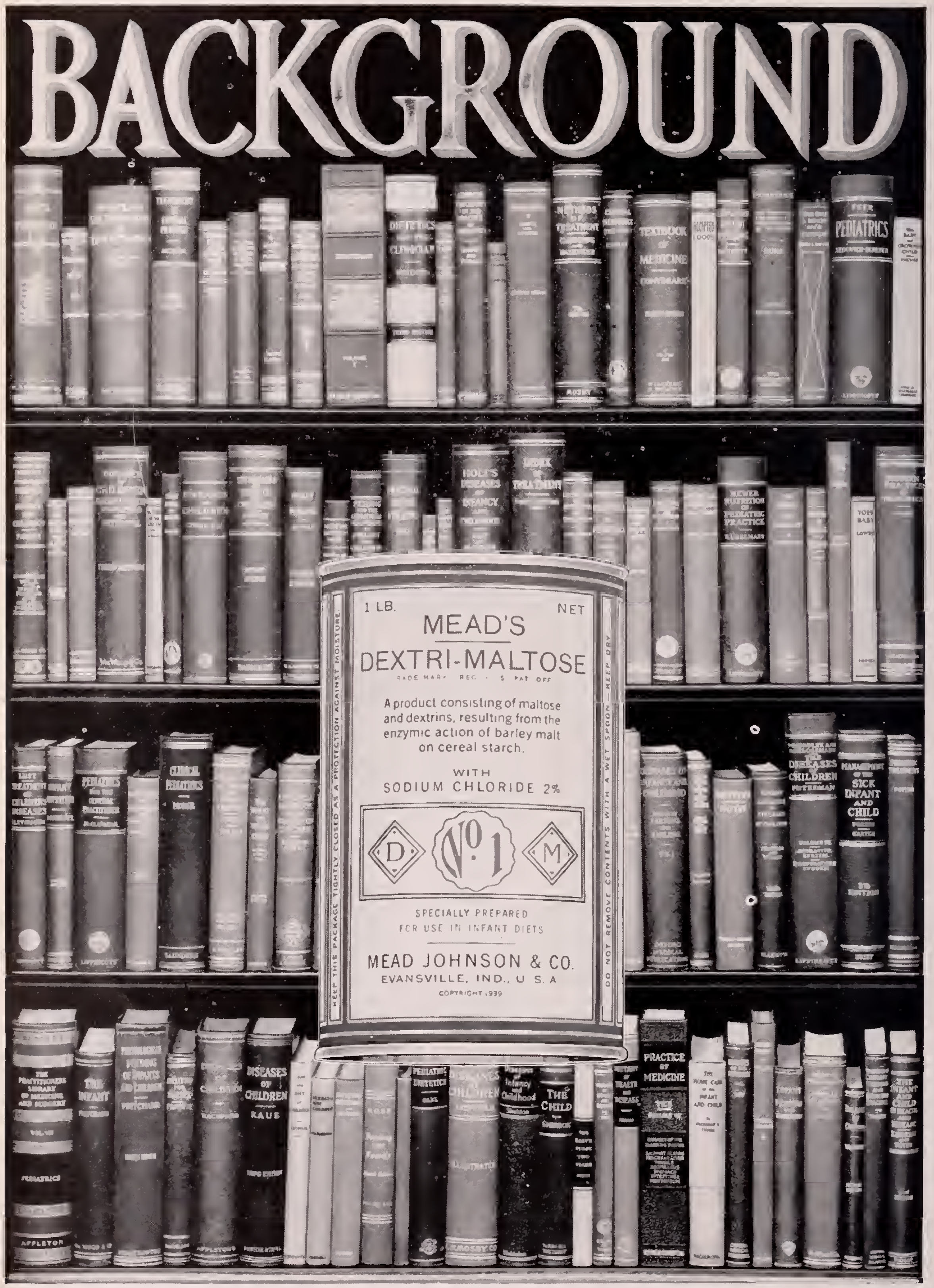
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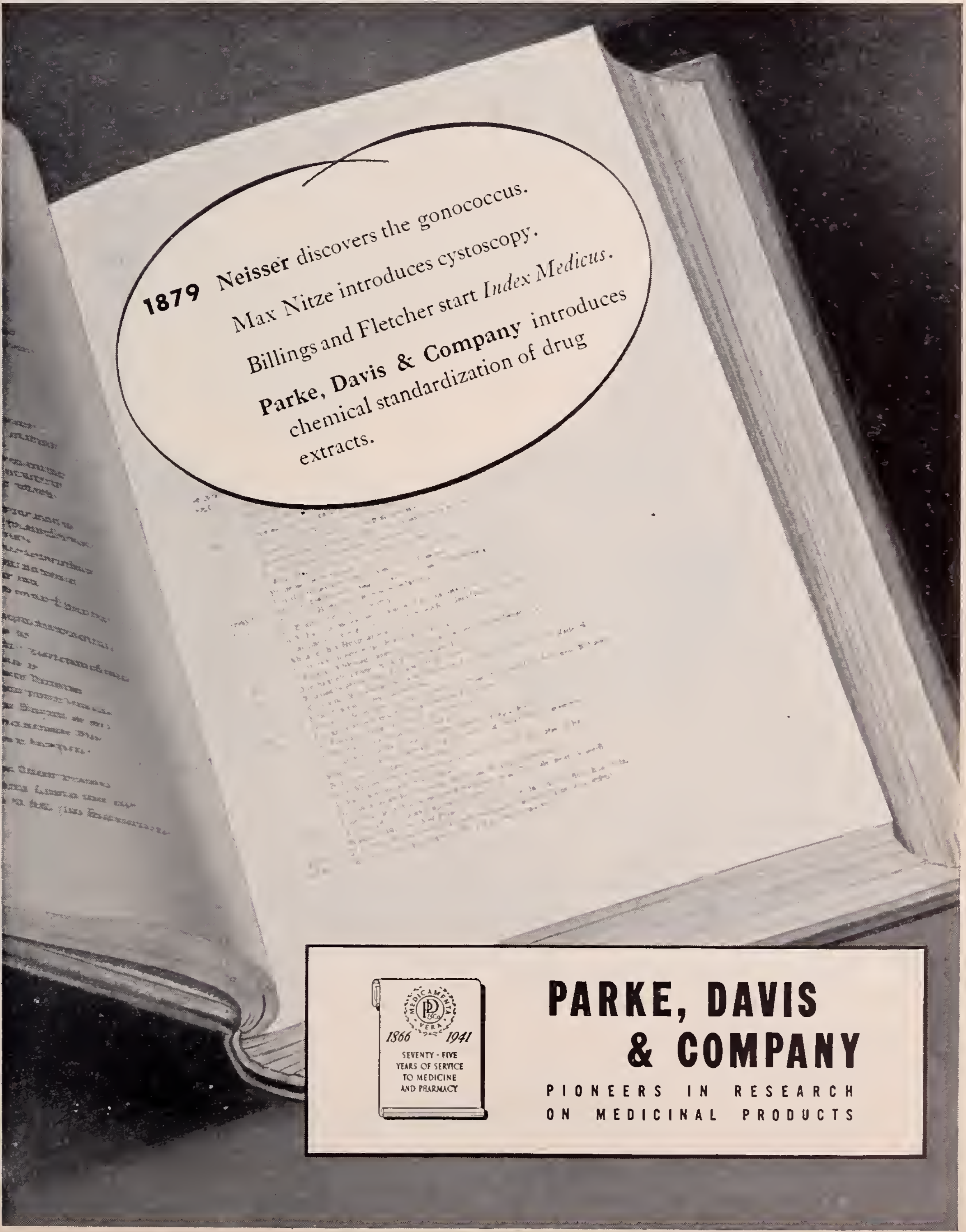

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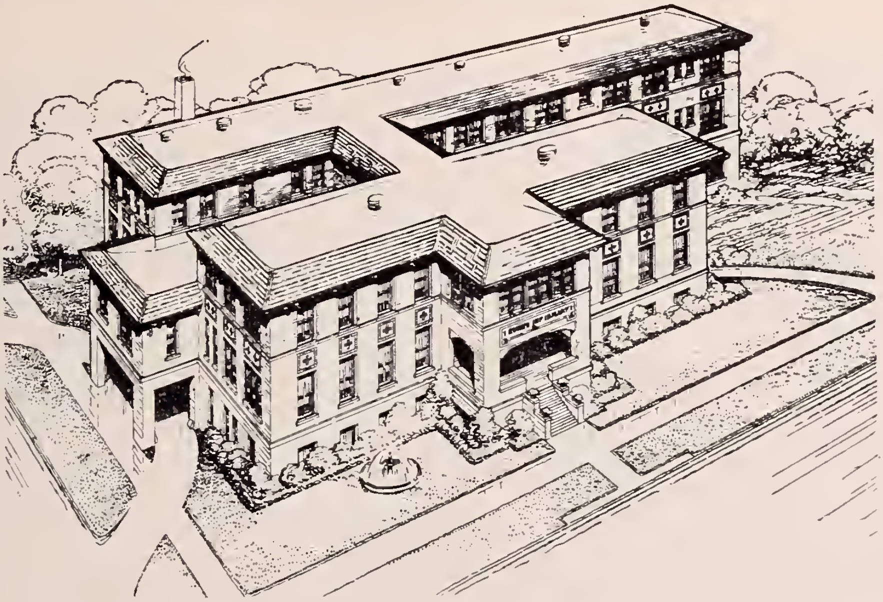

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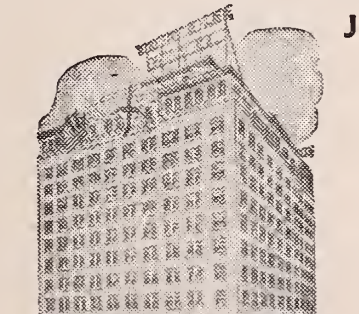

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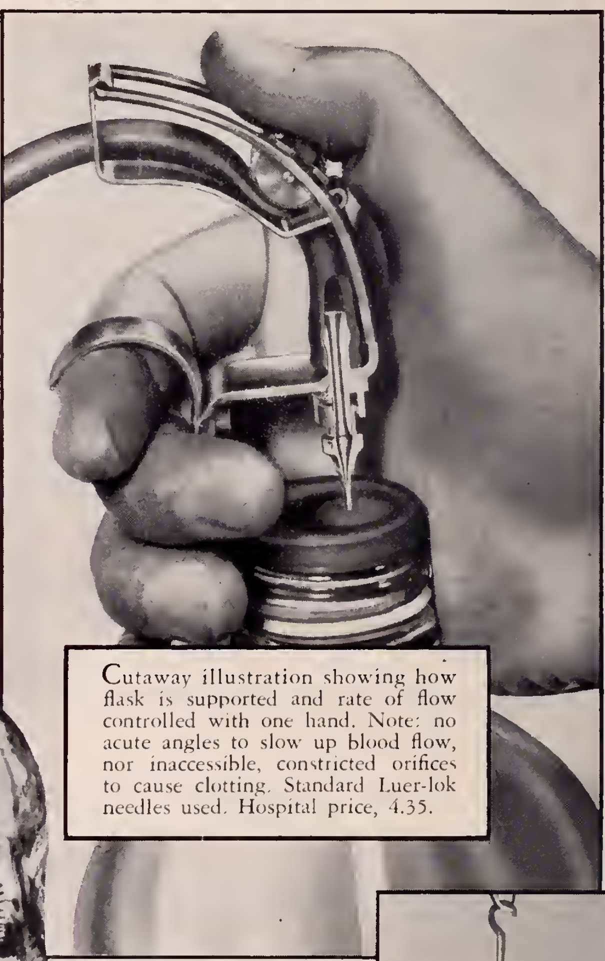

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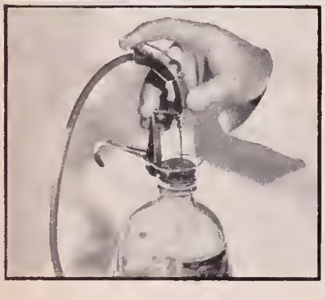

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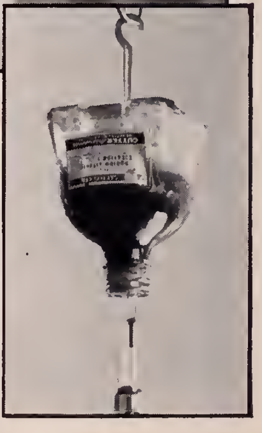
3 After blood is withdrawn, Saftivalve is removed leaving rubber cap in place. Saftivac may then be stored, or cap slipped off and transfusion started.



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Lipid Pneumonia and the Problem of Nasal Medication*

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LOCAL MEDICATION in the treatment of infections of the upper respiratory tract is generally regarded as an effective form of therapy, and few would deny that much relief from pain and discomfort is obtained in this way. The intranasal application of anticongestive, analgesic and astringent medicaments unquestionably relieves many unpleasant symptoms of upper respiratory infection, and because of this fact, there is a tendency to assume that the use of so-called antiseptic solutions is also based on sound grounds and that these actually accomplish the purpose for which they are used. Unfortunately, this assumption rests more upon empirical opinion than upon facts obtained from scientifically controlled experiments. It is the purpose of this paper to call attention, from the point of view of a pathologist, to some consequences of the failure to appreciate adequately the limitations of nasal medication.

One of the oldest of medical maxims is that, even though a particular form of therapy may fail to establish a cure, it should at least do no serious harm. Failure to observe this principle has led to the occurrence of many kinds of disease which are definitely "man-made," as, for example, drug poisonings of different kinds. Similarly, the type of lipid pneumonia due to the intranasal use of medicated liquid petrolatum is definitely a man-made disease and as definitely preventable whenever man chooses to prevent it. It is clearly due to a cause both unnecessary and easy to eliminate. It is desirable, however, if we are to convince ourselves of the importance of this cause, to examine the assumptions upon which this form of therapy rests. They may be stated briefly as follows: (1) The intranasal instillation of antiseptic solutions ensures a direct antibacterial or antiviral action; (2) their effect will be mainly local and (3) they will cause no harm. It would seem obvious that, before accepting the validity of these assumptions, a detailed examination should be made of the evidence on which they are based.

There is no reason to assume that acute rhinitis is a superficial infection in which the causative agents are floating on the blanket of mucus where they can be readily reached by local medication. Histopathological evidence, on the other hand, justifies the conclusion that the infectious agents quickly enter the nasal epithelium and exert their effects in and beneath it. It is obvious, therefore, that an antiseptic agent applied locally must penetrate into and beneath the nasal epithelium and there exert its antiseptic effect while causing no serious harm to the tissues. Furthermore, it must act effectively in the presence of mucus and other body fluids. Is there any real evidence that this is the case?

A study of the normal defensive mechanisms of the nasal passages reveals the fact that the epithelium is protected from injury mainly by the mucus-blanket and the action of the cilia. Hilding[1] has shown in the human being that this blanket of mucus is constantly moving backwards while being replaced by fresh mucus, so that in the normal individual it is largely replaced every ten to thirty minutes. Its action is doubtless hampered during infection because of the lessened viscidity of the mucus and the damage to the cilia. Nevertheless, to whatever extent it continues to move, to that extent any antiseptic solution placed on it will also tend to move and either be swallowed and thus have but slight therapeutic effect, or gravitate to the lungs where it may do harm. This damage to the pulmonary tissues is particularly liable to occur if the antiseptic solution is irritating, if it carries infectious agents into the lungs with it, or if it is dissolved in an oil which tends to remain in the lungs and act as a foreign body.

The name, lipid pneumonia, describes the form of pneumonitis caused by the aspiration into the lungs of oily materials. Interest in the problem began in 1925 when Laughlen[2] called attention to its development after the intranasal use of medicated liquid petrolatum. Since then numerous papers[3, 4, 5] have emphasized various aspects of the problem, and its pathogenesis and more important pathologic features are now well understood. It occurs largely because of the ease with which light oily fluids in the nasopharynx can enter the lungs. This is possible because these materials, due to their blandness, fail to elicit the cough or gag reflex. Many of the nasal oils also contain menthol or other mild analgesics which further facilitate their easy entrance into the upper trachea and thence into the lungs. Gravity is an important factor, especially in infants lying on their backs, in weak, debilitated or bed-ridden patients, or in normal individuals taking the oily preparation at night before retiring. Neurogenic disorders which interfere with normal deglutition also predispose to pulmonary aspiration. The condition may arise also from the aspiration of ingested oils, as from the use of liquid petrolatum for the prevention of intestinal stasis, or the accidental aspiration of cod liver or halibut oil, or even milk and cream. Emphasis in the present discussion, however, will be placed on the type which results from the nasal use of medicated oils.

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*Read before the fifty-sixth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 11-14.

The pathologic effects in the lungs may be acute or chronic. The acute form is likely to occur when the nasal oils are administered to infants with acute upper respiratory infection, as emphasized first by Laughlen. The pneumonia probably develops as follows: The infant, particularly if debilitated, and lying much of the time on its back, with its nasal passages filled with purulent secretion, receives the medicated oil intranasally. Some of the oil, mixed with bacteria or virus, passes the epiglottis and enters the lungs. Here the oil may irritate the pulmonary capillaries, causing the outpouring of edema fluid in which the bacteria or viruses may start to develop, thus initiating a bronchopneumonia. If this becomes a terminal process, the abundant pneumonic exudate may obscure most if not all traces of the oil and, if it were not for the history of oily medication, it would probably seem to be just another case of terminal bronchopneumonia. Nevertheless, this course of events appears so probable, now that so many cases of pneumonia following administration of oil have been reported, that many pediatricians have abandoned this form of therapy.

Let us first consider the question as to whether the above described course of events seems probable and typical. Is there any clinical evidence that these medicated oils can enter the lungs so easily, or that they are irritative if they do? That the oils can enter the lungs easily is shown by the fact that so many cases of lipid aspiration have been discovered by pathologists within the past few years. Probably the most important fact learned thus far from the study of lipid pneumonia is the ease with which light fluids, oily or otherwise, in excess in the nasal passages or nasopharynx, may gravitate to the lungs. The question as to whether these medicated oils are primarily irritative can be ascertained mainly by experimental study. That, Walsh and I have made[6, 7], using normal healthy rabbits into whose nostrils the various intranasal preparations were instilled. Other animals may be used, but the rabbit is useful because, with the absence of a cough or gag reflex, light fluids placed in the nostrils tend to run easily into the lungs. These fluids can be dropped into the nostrils of healthy, non-anesthetized animals sitting in a normal position in a rabbit box, and, after a few hours, the animals can be sacrificed by air embolism, the lungs fixed in situ and the tissues studied for evidences of pulmonary damage. By this method we have found that many of the antiseptic solutions, whether oily or aqueous, used commonly in nasal therapy are definitely injurious to pulmonary tissues. Every one of the medicated oils commonly used therapeutically, after entering the lungs of healthy rabbits, caused acute pulmonary edema or bronchopneumonia, the severity of which depended presumably upon whether or not they were accompanied by living pathogenic bacteria. Furthermore, even plain non-medicated liquid petrolatum, under these conditions, caused acute pulmonary edema. I believe, therefore, that it is no exaggeration to state that, in an infant with acute upper respiratory infection, the entrance of medicated liquid petrolatum into the lungs may injure the tissues enough to cause acute edema and thus set the stage for a possible development of a terminal bronchopneumonia.

It seemed likely for a time that lipid pneumonia was almost entirely a disease of infancy, but it is now apparent that it may occur at all ages and under many conditions. This applies particularly to the chronic form which results from the long-continued use of nasal medication. It is unfortunate that liquid petrolatum was selected as the oil in which to dissolve these medicaments, because this oil apparently cannot be metabolized by tissue enzymes and hence remains in the tissues for long periods and acts as a foreign-body irritant. This effect in subcutaneous tissues has long been known as the so-called "paraffinoma"; in the lungs it causes a similar proliferation of connective tissue so that, in time, much of the functioning pulmonary tissue is replaced by scar tissue in which many lipophages containing liquid petrolatum persist. The resulting scarred lung is somewhat like that occurring in silicosis, and Ikeda[8] has used the name "paraffinoma of the lung" to describe it. The degree of the scarring depends on the amount of oil which has entered the lung, and whether it is dispersed or localized.

The symptoms may be acute or chronic. In the acute form, particularly in infants, the effects depend upon the amount aspirated, and whether pathogenic micro-organisms accompany its aspiration. Choking attacks, cyanosis and suffocation have followed the massive aspiration of oils, together with cough and increased respiratory rate. A rise in the fever may also furnish a clue as to the nature of the process. In many cases, however, the amount of oil reaching the lung is undoubtedly small, and the effects are minimal, although even here, the pulmonary damage might well lead to an area of lowered resistance in which serious infection could develop.

The symptoms in the chronic form may be absent or may be manifested as a persistent cough. This may lead to the establishment of a vicious circle because the patient may take more of the nasal oil or spray in an effort to relieve the cough. Thus, over a period of months or years, large amounts of the liquid petrolatum may accumulate in the lungs. If the scarring is diffuse, the effects may stimulate chronic fibroid tuberculosis, chronic bronchitis, bronchiectasis, pneumonoconiosis, chronic asthma, unresolved pneumonia, fungus infections of the lungs, etc. If the accumulation of oil is focal, causing the development of the so-called oleomata, the effect may stimulate bronchogenic carcinoma and lead to the erroneous diagnosis of cancer of the lung. At least two such mistakes in diagnosis have been reported[9, 10]. In one, a man of 35 died of postoperative complications after pneumonectomy, and necropsy revealed a localized lipid pneumonia which had been undiagnosed. Investigation revealed that "for over three years it had been the habit of the patient to apply medicated nasal spray with an atomizer especially at night before retiring. The spray consisted of liquid petrolatum containing menthol and ephedrine." Until the widespread practice of such massive self-medication is stopped, it will be necessary for thoracic surgeons to include localized lipid pneumonia in the differential diagnosis of carcinoma of the lung.

The diagnosis of lipid pneumonia is not usually made, but is possible at times, particularly in the severer cases. Here, in conjunction with the development of the characteristic symptoms, an adequate history of the use of oily medicaments is of primary importance, especially as to amounts, frequency of use, and duration. Diagnosis may be facilitated by examination of sputum for lipophages or from specimens obtained by bronchoscopy. Roentgenologic diagnosis is becoming possible in some instances, now that the characteristic localization of the oil in the hilar regions has become better known. Unfortunately, however, the roentgenologic effects are not likely to be observed except in patients with severe or chronic involvement.

The incidence of the condition is impossible to determine. In the absence of clinical diagnosis, our information must come mainly from necropsy statistics. Here, unfortunately, many cases are left unreported, are not recognized at necropsy, or are not subjected to necropsy. Furthermore, the condition is likely to be overlooked if routine histological preparations are not made.

Pinkerton[11], in one of the earliest studies of lipid pneumonia, reported six cases in 290 consecutive necropsies of infants and young children; Ikeda[12] had seven in 101 consecutive necropsies; Freimann, Engelberg and Merrit[4] found 41 instances in 3500 consecutive necropsies among elderly patients at Montefiore Hospital. We have had 39 cases in 2000 consecutive necropsies. It is obvious from these figures that the incidence must vary widely from place to place, and must depend upon the varying tendency of physicians and the public to use medicinal oils, whether by mouth or by nasal application.

Most of this aspiration of oil can and will be prevented when physicians and public alike become aware of the dangers inherent in its use.

The argument that many persons have used these preparations with no bad effects is no more justified than is the one that because people occasionally ingest small amounts of lead in their food, lead can therefore be eaten with impunity and in large amounts over long periods of time. The real question is, do these nasal medications exert so effective an antiseptic action that we are justified in continuing their use, even though some persons may develop lipid pneumonia? Are we so sure that any therapeutic effects which they may exert could not be obtained equally well if the medicaments were dissolved in salt or glucose solution rather than in oil.

Heatly[13] said a few years ago, in considering the problem of therapy in acute rhinitis: "The ideal therapeutic aims in local medication in acute rhinitis are the reduction of nasal congestion, the promotion or restoration of ciliary function and the destruction of pathogenic organisms." He cited evidence that some of the nasal oils and antiseptics actually impair or paralyze ciliary action, and, in some instances, destroy respiratory epithelium. Walsh and I[6] have discussed in considerable detail the problem of intranasal medication and have challenged the opinion that the solution of medicaments in liquid petrolatum is superior to their solution in aqueous media containing sodium chloride or glucose. We have also questioned the idea that menthol, eucalyptol, guiacol or iodine, when dissolved either in oil or in aqueous medium, can exert any significant bactericidal action on viruses or bacteria which are developing in or beneath the nasal mucosa. Scientific proof rather than empiricism is needed before a complete answer can be given.

Lipid pneumonia is the unfortunate consequence of these uncertainties. It is part of the price which must be paid for therapeutic experimentation. It may be looked upon as a massive natural experiment which has amply demonstrated the ease with which light fluids in the nose or throat may reach the lungs and there cause harm. It is an experiment, furthermore, which can be terminated whenever physicians and the public choose to do so. It should have taught us the important lesson, however, that perhaps not only light oils, but aqueous antiseptic solutions in general, if improperly administered intranasally, may also reach the lungs and there cause harm. It should, in fact, stimulate the discussion and investigation of the entire question of intranasal medication.

Many products are on the market with the claim that they are "bactericidal," "stimulating" or "healing" and they are widely used by physicians and public alike. As with lipid pneumonia, the question is: Do they actually do what they are supposed to do, and are they harmless locally and in the lungs? Evidence does not prove either to be the case. Proetz[14], who has done so much to throw light upon many of the important problems of this field, has said recently, in emphasizing the importance of the functional point of view in rhinology and the need for constant reappraisal of the value of therapeutic methods empirically employed; "it is likewise progress, though it seldom occurs to us to abandon old methods . . . . when they have been discredited. Not to abandon them after they have been proved harmful is reprehensible."

Here again, the problem must be approached from the experimental point of view. Walsh and I have placed these preparations in the nostrils of normal healthy rabbits and determined their effects in the lungs. Briefly, it may be said that many of the commonly used antiseptic solutions are definitely toxic to pulmonary tissues of the normal rabbit, and cause acute edema and, at times, necrosis and bronchopneumonia. It is beside the point to say that this means only that these preparations are "bad for rabbits." The responsibility is upon the manufacturer and the user to ascertain that they are not similarly toxic to human lungs, and this should be proved particularly in reference to the delicate lungs of a small child. We also mixed some of the well-known antiseptics with pus obtained from a bronchiectatic cavity, in order to determine their bactericidal or antiseptic qualities. To our surprise, we could detect no appreciable diminution in bacterial population after 44 hours of exposure of the pus to the alleged bactericidal agents. We reported at the time, "The manufacturers of one of the silver protein salts say in their advertisement that the solution is 'nontoxic, definitely bacteriostatic, and above all, it is markedly soothing to inflamed tissues.'" Our experiments proved, on the contrary, that these solutions were exceedingly toxic to the pulmonary tissues of normal healthy rabbits, that they had no antiseptic effect upon purulent material from the bronchiectatic cavity of a human patient, although one per cent thymol did, and that they caused, not a soothing effect, but necrosis of normal pulmonary tissues of rabbits. It is doubtful that substances so toxic to the tissues of one species of mammal would have the opposite effect in another. We infer, therefore, that such materials should be used intranasally with great caution, if at all, lest some of them get into the lungs and cause chemical injury. The danger would appear to be all the greater when they are used in the presence of acute upper respiratory infection, because of the possibility that pathogenic micro-organisms might be carried by them into the lungs and into an area of decreased resistance induced by the chemical agent. This hazard would seem to be particularly great in infants and young children lying in bed. It should be remembered that a bronchopneumonia arising under such circumstances would obscure all evidences of the initial injury; indirect proof may be possible by the chemical analysis of such lungs for the quantitative determination of silver, but so far as we know, this has not been done." It is also beside the point to argue, therefore, that these substances are harmless in the human lung, because there are no cases on record in which harm has been proved. Here again, it is the responsibility of the manufacturer and the user to find out whether they are toxic to human pulmonary tissues.

In conclusion, it may be said that, despite the need for more scientific data in the field under discussion, there is enough information to justify a warning with respect to the potential hazards of intranasal medication. Many persons for years to come will continue to pay the price for their failure to discontinue the use of medicated liquid petrolatum. At the present time many advertisements over the radio and on the printed page are persuading people to use these products at the first appearance of a cold. Unfortunately, none of the advertisements tells the people the dangers from the continued use over long periods of time of these preparations of liquid petrolatum, nor of the great danger, particularly to debilitated infants, at any time. The prevention of lipid pneumonia is possible when and if the medical profession takes the leadership in the movement to discourage the indiscriminate use of these nasal oils and the public listens to the warnings rather than to the advertisements of the makers of these products.

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Cardiac Disease In Acute Infections*

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IN THE COURSE of acute infections symptoms appear which may be too easily accepted as the result of cardiac disease. In most acute infections the cardiac rate is rapid, the blood pressure falls and the heart tones may change in character, especially if the disease is prolonged or severe: gallop rhythm, feeble sounds and irregularities are often noted. A systolic murmur is not infrequently heard at the height of the disease. Dyspnoea, cyanosis and pulmonary edema may develop. Through many years these symptoms were accepted as evidence of actual cardiac disease and much attention was given to the treatment of the heart. Often, especially when the symptoms became severe, the diagnosis of cardiac failure was made and many various drugs have been employed to "support the heart." Modern studies have changed our views of the underlying processes which promote the circulatory failure. Theories of the mechanism thereof maintain that, in most cases of infectious disease, so-called "cardiac failure" is not primarily cardiac but vascular.

Harrison[1] writes that "It is not generally recognized that failure of the heart is of relatively rare occurrence in acute infectious disease, while failure of the peripheral circulation is a frequent complication. The development of hypokinetic phenomena in certain persons with diphtheria or rheumatic fever is clearly dependent upon acute damage to the heart, but the mechanism of the circulatory collapse which so frequently occurs in pneumonia, typhoid fever and other severe infections is now obscure. Further investigations must be performed before one is justified in attributing it to "adrenal depression," vasomotor exhaustion or to dehydration. Possibly several factors play a role in such cases." . . . . "Whatever the cause may be the important organs are deprived of oxygen and nutriment, while the toxic products of metabolism are not removed."

Not many infectious diseases are responsible for cardiac disease, but there are some which frequently provoke structural change, with impairment of normal efficiency. In the presence of certain infections, cardiac disease is common. The pathology is acknowledged: the symptoms of abnormal cardiac activity are related to the pathological processes of the heart. There are diseases which involve the myocardium alone; others are responsible for disease of the endo- and pericardium associated with impairment of the myocardium or the conduction mechanism.

Rheumatic fever, including chorea and scarlet fever, is the most common cause of cardiac disease of acute infectious origin. The cardiac results of these diseases are well known. The valvular lesions and the pericarditis which occur present physical signs, characteristic of the disease. The valvular changes are often given disproportionate attention. These deformities are important. They put abnormal strain upon the cardiac muscle, but it is important to consider the state of the myocardium. Especially in patients with repeated attacks, we should bear in mind that the myocardium suffers progressive damage from two sources, an abnormal amount of work as the valves become more deformed and recurrent inflammatory processes in the musculature which stimulate progressive deterioration of the muscle and eventual fibrosis. Repeated attacks of rheumatic fever, mild or severe, reactivate the valvular infection and are responsible for progressive deformity of these structures and also promote recurrent infectious processes in the myocardium which play a large share in the ultimate failure. The latter are not easily appraised; we do know that the victim of rheumatic fever is prone to recurrences; it is plausible to attribute the cardiac failure to the combination of advanced adhesions and retraction of the valves and the progressive myocardial failure due to frequent recurrences of an inflammatory process. Boyd[2] states that "Rheumatic myocarditis is a condition of peculiar importance because it is in the myocardium that the lesions most typical of the disease are found, and from which the pathological diagnosis can be made with the greatest certainty. The characteristic Aschoff bodies are inflammatory collections of cells, submiliary in size, scattered through the interstitial tissue of the heart in relation to the terminal twigs of the coronary arteries. They are undoubtedly due to the rheumatic virus whatever that may ultimately prove to be. On healing they leave fibrous scars, similar to those seen in the aorta, and must, therefore, be considered as one of the possible causes of the perivascular scarring so often seen in the heart wall or in the connective tissues." - - - "Myocardial scars may be attributed to coronary artery occlusion or to old inflammatory and necrotic foci." . . . He discusses heart block in his section on chronic myocarditis because "The subject of heart block is intimately connected with myocarditis and myocardial scars."

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*Read before the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 11-14, 1941.

Pertinent to the subject of recurrent infection of the rheumatic heart is the fact that intercurrent infections are prone to provoke exacerbations. This is especially true of upper respiratory infections: a coryza, an acute pharyngitis or tonsillitis, an acute bronchitis or an exacerbation of a chronic bronchitis may precipitate a period of fever which will last some time beyond the fresh infection and the symptoms thereof. Such patients are most likely to do well if they may have the benefit of a warm and dry climate through the winter months of our northern states. In appraising the question of recurrent infection and its duration, it is important to determine the sedimentation rate. This test is equal in importance to the record of fever, the rate of the heart or the leucocyte count in the determination of activity of the rheumatic process.

As to the pathological processes which develop in the heart in the course of rheumatic infection, Kerr[3] states that "It is now generally understood that the lesions in rheumatic fever occur in the arteries and especially in and adjacent to the smaller branches and capillaries." He quoted Karsner and Bayliss[4], who "found that rheumatic fever regularly produced disease of the coronary arteries and that either inflammatory or fibrotic lesions or both were practically constant." . . . "Except for the presence of Aschoff nodules, the lesions were not specific for rheumatic fever." . . . "The relation to myocardial disease and fibrosis was found in the occurrence of internal fibrosis resulting from the interference with the blood supply." Gross, Kugel and Epstein[5] "found extensive acute inflammatory and destructive lesions in the heart in active cases, especially in young individuals." . . . "These authors found a series of degenerative, productive and proliferative lesions in active cases either uncommonly or never seen in 'normal' cases, and stressed the clinical implications of such widespread vascular damage."

White[6] states that "The typical heart lesion of the rheumatic infection is an inflammatory reaction about the smaller arteries consisting of groups of small round mononuclear cells with a few giant cells: this has been called the Aschoff body and its discovery anywhere in the heart or pericardium has been considered almost pathognomonic of the activity of the rheumatic infection."

In summary it may be stated that the rheumatic infection is characterized especially by the Aschoff body and by the tendency through months and years, as the result of recurring attacks, to develop gross deformities of the valves and myocardial fibrosis—rheumatic myocarditis. Given the presence of acute interstitial myocarditis associated with degenerative processes of the myocardium, the results, immediate in occasional cases, remote in most, are to impair the functional capacity of the heart. The myocardium damaged to a variable degree contributes to cardiac failure, partly because of its own impairment and partly because of the excessive work imposed upon the cardiac muscle through the functional changes involved in the valvular deformities.

The rheumatic infection also involves the pericardium. The effusion is practically never purulent in rheumatic fever; the fluid is serofibrinous or fibrinous. While the effusion may be rather large in many cases, it is well to avoid aspiration of the fluid unless the indications for removal of the effusion are clear: only in the presence of large effusion with signs and symptoms of cardiac distress should paracentesis be done in the presence of acute inflammation. Interference during the acute stage may precipitate an aggravation of symptoms, serious in character. Furthermore, rheumatic effusions are rarely purulent unless paracentesis is done to remove an effusion.

Pericarditis, acute or chronic, may be a complication of various infectious diseases. The acute form occurs in pneumonia, influenza, the various manifestations of the rheumatic state (more than half the cases are in this group), in the septic diseases, typhus, typhoid and septicaemias of every type. In the last group, the effusion is usually purulent and the prognosis almost hopeless. Chronic pericarditis is usually the result of an infectious process. The most common causes are rheumatic fever and tuberculosis. It may develop in the course of other infectious diseases, but the great majority of the cases are rheumatic or tuberculous in origin. These cases are uniformly fatal, although the victims may live through years of illness. The pathological process in the rheumatic type is commonly marked by thickening of the pericardium and adhesions; in the tuberculous type, constrictive pericarditis, so-called Cancato's disease, with notably impaired cardiac function, occurs as the result of thickening which hinders cardiac contraction. In recent years, surgery has been employed with encouraging results.

Until recent years, diphtheria was conspicuous as an infectious disease prone to cause severe cardiac changes. Within our own time this disease has become infrequent. Hence the cardiac results of this infection are now unusual, one may say rare, particularly in centers of population where public health activities are well organized. This infection spares the valves; the myocardium is involved. In the more severe cases degenerative processes in the myocardium are widespread and dangerous. The pathological process is degenerative, not inflammatory; the diphtheria toxin directly causes injury to the musculature. Often the main conducting tissue is involved with variable degrees of heart block. The block may be complete. Occasional cases are seen in which the auriculo-ventricular dissociation has persisted for years. The clinical manifestations of diphtheritic myocarditis are apt to be marked: tachycardia, irregularities of every type, and auriculo-ventricular dissociation of various degrees may be associated with collapse. In times past, the failure of the heart was often the cause of death. The severe damage to the myocardium was not the only cause of threatening symptoms of death. Diphtheria toxin, which is neurotoxic to an unusual degree, and neuritis, especially of the vagus, were probably the cause of many deaths. The prevention of cardiac disease in diphtheria is dependent upon the prompt and efficient use of antitoxin. If delay in proper treatment is followed by cardiac disease the prognosis of the immediate disease is made worse and permanent damage may ensue. Digitalis is contra-indicated; this drug will aggravate the cardiac irregularities which diphtheria provokes. It excites premature contractions and impairs the function of the auriculo-ventricular tissue. White[7] recommends "For serious cardiovascular complications, absolute rest and intravenous dextrose (glucose) injections (25 to 100 cc. of 50 per cent solution daily or oftener) have been found more helpful than other measures."

Hitherto, much attention has been paid to the cardiac complications of pneumonia, especially to the pathological alterations of the myocardium which have long been accepted as the immediate cause of death. Myocardial degenerative processes develop often in the course of pneumonia, partly due to the infection and partly to anoxemia. Clinically, a rapid pulse, increased respiratory rate, fall of blood pressure, cyanosis and prostration have been regarded as evidence of cardiac failure as well as pulmonary embarrassment. As the disease progresses and these symptoms become more ominous, therapy is likely to be directed to the heart; many drugs have been employed almost universally. While it is true that the heart in pneumonia may be the immediate cause of death as in other infectious diseases, the so-called "acute cardiac failure" in this disaese is usually not correctly named. The circulatory failure of pneumonia is not a cardiac failure in the same sense as we use the term "congestive failure." The actual failure is one of the mechanics of the circulation, well-named as "circulatory collapse," which, however, has not found explanation.

This failure is associated with cardiac weakness for which digitalis is no remedy. Oxygen and intravenous fluid are valuable but nothing is at hand to combat this type of failure as digitalis so often does for backward failure. The drugs which are used for emergency stimulation of the heart are usually ineffective. One exception may be made: Digitalis is indicated if auricular fibrillation with a rapid ventricular rate develops. The treatment of pneumonia now includes the use of newer drugs, sulfapyridine, sulfanilamide, sulfthiazole, the use of serum in the more severe cases or in those in which proper drug therapy was not promptly employed and the use of oxygen as this is indicated. With these procedures, the mortality has notably declined.

This remarkable achievement is not the result of cardiotonics of any type; these have never been satisfactory. Their use should be supplanted by early recognition of the disease and the early and thorough employment of the drugs now at our disposal. The use of so-called cardiotonics in pneumonia may be discarded if prompt recognition of the disease and adequate use of newer remedies are carried out.

There is a group of drugs which have been used extensively in the treatment of collapse occurring in the course of acute infections. Strychnine, camphor, digitalis, caffeine, metrazol and coramine are some of the best known. In spite of extensive use of these, one cannot speak with authority concerning their value. All of the six mentioned and many others have been widely and enthusiastically employed at times for the treatment of pneumonia. Whether they were used in typhoid or pneumonia or scarlet fever or other infections, it has always been difficult to estimate their effectiveness or the lack thereof. My own opinion is one of skepticism. In the past six years or so anti-pneumococcus serum and the more recent drugs of the sulfanilamide group have shown results that are startling. This development in the treatment of pneumonia tempts one to predict that "if and when" comparable remedies are found for other infectious diseases, the use of so-called emergency remedies, of which we have never been sure, will be forgotten.

Cardiac disease in pneumonia is not confined to involvement of the myocardium. The pneumococcus may cause pericarditis or endocarditis. Pericarditis is not a frequent event, but it is of serious import. A fairly large number of these cases develop purulent effusions with a very high mortality. The simple, uncomplicated cases of pericarditis, with only a minor degree of effusion, are not significant except for the pain which may be present in the early stages. Endocarditis is not frequent. Unfortunately, a valvular endocarditis developing as the result of pneumococcus infection is prone to eventuate in an ulcerative endocarditis, with the ominous prognosis of this disease. The patient who has valvular disease of rheumatic origin is especially in danger of pneumococcic endocarditis of the vegetative or malignant type. Patients with rheumatic heart disease and cardiac decompensation are poor risks for an attack of pneumonia. The mortality is high.

The occurrence of cardiac disease in the course of influenza is recognized, but exact criteria for a symptom-complex which may be accepted as influenzal myocarditis are not easily defined. The primary disease is characterized by a pronounced depression, marked weakness, lability of the rate often with palpitation and some dyspnoea. The clinical diagnosis of influenzal myocarditis is fraught with uncertainty. If, in the course of influenza, in addition to the symptoms and physical findings just mentioned, the depression is unusually marked, the blood pressure is low, the cardiac tones are poor, the rate is exceptionally rapid or slow—if these symptoms persist for sometime after the fever has subsided, and no other explanation satisfactorily explains the symptoms —the diagnosis of influenzal myocarditis may be considered. During the acute infectious stage, bradycardia is the rule; cardiac irregularities may be present and partial or complete heart block, (rarely permanent) may occasionally develop. The diagnosis is difficult except in the cases of actual abnormalities demonstrated by the electrocardiogram, although it may be maintained that the depression and weakness which occur in the course of influenza and the convalescence thereof bear evidence that the myocardium does, in some cases, undergo manifest pathological phenomena. It is probably a wise precaution to protect the patient recovering from influenza from activity until he has regained his status of normal well-being. The possibility of cardiac damage during the course of this disease ought to be taken into consideration. Post-influenzal cardiac disease is a difficult problem for physician and patient except in the occasional cases which present specific clinical findings. We must also bear in mind that the post-influenzal period often presents neuroses of variable intensity in which a cardiac murmur may mislead.

Syphilis needs only a short reference in a discussion of cardiac disease in acute infections. Cardiac disease is not a part of the early stages. The cardiac complications develop slowly in patients inadequately treated through many years and symptoms appear long after the initial lesion.

Acute bronchitis is hardly a factor in the production of cardiac disease; it may, however, be troublesome, even serious, in the course of established cardiac disease. Acute bronchitis exaggerates the coughing spells of the cardiac; it will usually quicken the pulse and increase the respiratory function; and the combination of these factors may provoke cardiac decompensation in the course of chronic cardiac disease. It almost invariably aggravates the symptoms of the decompensated cardiac patient, often to a serious extent. So-called terminal pneumonia is not infrequently the result of the combination of acute bronchitis and chronic congestive failure.

There is a group of severe infectious diseases in which the heart is occasionally involved: streptococcic and staphylococcic infections, gonorrheal and meningococcic sepsis, even erysipelas may be accompanied by malignant types of cardiac disease. Thus far, this group has been characterized by a high, very high, mortality. The group of drugs already mentioned, sulfapyridine and its congeners should be thoroughly tried out; there is, at least, some hope that these remedies may prove effective in the treatment. Thus far the use of specific serum has not been encouraging.

The heart in typhoid fever is free from endocardial or pericardial inflammation; the myocardium, especially in the more severe cases, may undergo degenerative parenchymatous alterations; after recovery these may subside or perhaps leave some residue of the myocardial involvement. Rarely, however, does typhoid leave a damaged heart. In the days when typhoid was not a curiosity, the recovered patients were few who presented any stigmata of cardiac disease. Stahelin[8] in Bergmann's Textbook says that "The failure of the circulatory apparatus is the most common cause of death in typhoid fever. Nevertheless we commonly find in the heart only transitory changes. The failure of the vascular innervation is, at least, equally important. Death rarely occurs in collapse, but mostly along with signs of increasing circulatory weakness." As an explanation of the role of the heart in the mechanism of death in typhoid, this statement accords with the accepted concept of cardiac failure in most infectious diseases. Pericarditis and endocarditis are rare in typhoid; myocardial disease, as a late result of typhoid, is negligible.

The tubercle bacillus is rarely responsible for cardiac disease. Occasionally tuberculous pericarditis complicates the course of pulmonary or miliary tuberculosis, but otherwise cardiac complications are uncommon in this disease. Usually the onset of pericarditis is accompanied by pain, not often severe; the pain disappears as the fluid accumulates. Not infrequently, the fluid accumulates insidiously without pain, and is discovered accidentally or because of increased dyspnoea and tachycardia, which call for an explanation. Tuberculous pericarditis is not likely to become purulent if the effusion is not aspirated; this procedure should be avoided if possible because of the danger of infection. Usually the effusion develops slowly and after a period of a few weeks may subside. Recurrences are frequent. Eventually, in some cases, adhesive processes develop with sacculation between the layers or adhesions of the outer portion to neighboring structures.

Sweeney[9] reported a pathological study of one hundred instances of pulmonary tuberculosis. He reported that "in three to five cases out of one hundred, tuberculosis may involve the pericardium, the myocardium, or rarely, the endocardium." He states, "Tuberculosis specialists too often overlook the presence of cardiac abnormalities because of the fact that the symptoms are similar to those caused by pulmonary disease." Gouley, Bellet and McMillan[10] reported six cases of tuberculosis of the pericardium. Two types of pathological process were described: myocardial tuberculosis secondary to mediastinal glandular structures and the pericardium and as a part of systemic tuberculosis. In connection with the subject of tuberculosis, it may be pertinent to recall the fact that stenosis of the pulmonary artery appears to promote the development and the course of tuberculosis.

Other diseases in which myocardial disease is encountered are typhus fever, yellow fever and trichinosis. Herzog and Rodriguez[11] systematically investigated the pathological changes in the heart in 103 cases of typhus fever during the last epidemic in Chile. Microscopically, save in a few instances, there were no detectable changes save dilatation of the left ventricle and flabbiness of the cardiac muscle. Microscopically, 97% of the patients showed specific disseminated, mostly focal interstitial myocarditis." . . . . "The severity of the heart failure paralleled the pathologic structure." White[12] mentions the myocarditis and vascular disease which occur in typhus but regards these as now of little importance because of the diminishing incidence of the disease. He also noted that "Complete arterial obstruction and gangrene may, however, complicate a few cases." Yellow fever is characterized by the pronounced bradycardia; anatomically the myocardium presents severe degenerative changes. Foshay[13] has reported three cases of auriculo-ventricular dissociation in the course of tularemia. In one the block developed in convalescence and was transient. This patient had two attacks of anginal pain. He died of coronary occlusion twenty-seven months after his first attack of pain. Complete heart block occurred in another patient who developed the typical signs of coronary occlusion on the sixteenth day of her illness and the third day after the heart block appeared. A man of thirty-four developed incomplete heart block; throughout the course of the acute disease and for a year after recovery he had an inflexible tachycardia.

Sping[16] states that "Zenker was the first to find the larvae of trichinosis in the heart muscle at autopsy; Zenker reported the first case in 1860." . . . Other workers have confirmed this. . . . "Zoller concluded with Graham that either the larvae were killed in situ or left the myocardium rapidly and entered the circulation again. Zoller expressed a belief that the damage to the cardiac muscle was only temporary, as he found no evidence of permanent alteration of myocardial tissue." Spink further observes that "It appears from the recent work of Dunlap and Weller that it is the presence of the larvae in the myocardium and their active migration and not a blood-borne toxic substance which produces the characteristic myocarditis." Spink has "studied electrocardiograms from eighteen of thirty-five cases. Abnormal electrocardiographic changes were noted in six. . . . the earliest changes were observed in the second week of the disease. Only one case presented clinical evidence of myocardial damage." This author states that "the electrocardiographic evidences of myocardial disease in trichinosis are the changes in the T waves and the low amplitude of the Q-R-S complex."

It has not been our experience to encounter cardiac disease in the course of undulant fever. Smith and Curtis[14] stated that "Few cases of proved endocarditis occurring during the course of undulant fever have been reported." These authors report a case of ulcerative endocarditis proved by autopsy. Their summary reads thus: (1) "Nine previously reported cases of Brucellosis endocarditis with post mortem confirmation have been reported." (2) "Another autopsied case of Brucellosis with aortic vegetative endocarditis refractory to three courses of sulfanilamide therapy has been presented."

Congenital cardiac disease is especially prone to succumb to acute infections. Jacobi and Heinrich[15] reported "a case of acute bacterial infection superimposed upon a heart containing a fistula between the aorta and right ventricle and a bicuspid aortic valve and coarctation of the aorta." The patient was a child of 18 months, who was admitted to the hospital with a history of previous attacks of tonsillitis and a temperature of 103 degrees to 106 degrees. Death occurred within a few days. This report portrays the usual course and termination of acute infectious disease of the heart in the presence of congenital defects. The outlook is always poor.

Acute hemorrhagic nephritis may be complicated with acute cardiac symptoms. Rubin and Rapaport[17] report 55 cases of acute hemorrhagic nephritis in children. Severe myocardial damage was encountered in 14 of the patients, 12 of whom had frank decompensation. Leiter[18] says that "in primary disease of the kidneys, the status of the heart is often decisive. In acute nephritis, left ventricular failure and pulmonary edema may rapidly terminate the disease fatally. The infectious diseases which are likely to involve the heart are also prone to promote renal disease. These conditions often coincide but it is essential to bear in mind that an infectious nephritis may be the precursor of acute cardiac failure." Leiter has emphasized the fact that "left ventricular weakness or failure is commonly overlooked in acute nephritis. Instead of the uncontrolled use of diuretics or hypertonic solutions in these cases, immediate relief of the left heart by means of venesection, oxygen, morphine and digitalis is indicated."

Simon and Wolpaw[19] write that "Acute isolated myocarditis" (frequently spoken of as Fiedler's myocarditis) "is characterized by a distinctive histological picture. The myocardium shows a diffuse infiltration of the interstitial tissues by lymphocytes, mononuclear cells and to a lesser degree, polymorphonuclear leucocytes, eosinophils and plasma cells. Numerous fibroblasts and new blood vessels may be seen. Occasionally small areas of necrosis are found in the muscle fibers themselves, but these are usually spared. The same heart may show a picture varying from that of cellular infiltration to that of the various stages of fibrosis. The endocardium and pericardium are not usually involved in the process, the lesion being entirely confined to the myocardium. The remainder of the body likewise shows no changes corresponding to the myocardial lesion, passive hyperaemia and infants secondary to mural thrombi being the common finding." . . . "Clinically, no distinctive picture exists by which the lesion may be diagnosed with any degree of assurance. Instances of sudden death without the previous occurrence of cardiac symptoms have been reported." . . . "In a small number of cases the duration of the illness extended from 9 to 21 months, the picture in prolonged disease being one of congestive failure with all the classical signs and symptoms. The usual course, however, is one of rapid and progressive myocardial insufficiency, the total illness frequently being measured in terms of weeks, with dyspnoea, cyanosis, tachycardia and weakness as outstanding symptoms."

Periarteritis nodosa is another general disease which may present predominant symptoms of cardiac disease. This is characterized by symptoms of sepsis with scattered local manifestations of vascular disease which baffle explanation, anatomically, by nodular inflammatory foci in the walls of the smallest or middle-sized arteries, the myocardium may be involved. Small abscesses of the myocardium and fibrotic scars have been found. Obstruction of an artery in the wall of the heart has produced the symptoms and clinical findings of coronary occlusion. The origin of this disease has not been explained; the diagnosis depends upon the evidence of vascular disease in the course of a septic disease of unknown origin. The cardiac complications are incidental but often the cause of death. The disease, in essence, is one in which the primary origin is due to an invasion of the arterial wall by infective organisms, which produce multiple and widespread inflammatory foci in the arterial walls. There is no treatment to hinder the progress of the disease; occasional reports have been made of the discovery at autopsy of healed foci; in general, the disease is uniformly fatal. In a case which we observed some years ago, autopsy revealed, "in the myocardium very severe infiltrative thrombotic and destructive changes involving the middle-sized branches of the coronary arteries leading to complete alteration of numerous branches." Recently a case was presented at Mt. Sinai Hospital in Chicago which revealed periarteritis nodosa with terminal coronary infarction.

Abscess of the cardiac muscle is rare. Weiss and Wilkins[20] reviewed the literature and reported two cases of their own. "These two cases are quite unique in that no other abscesses were found in the body." "In the first case, the staphylococcic abscess of the heart probably originated from urinary sepsis; in the second case, the myocardial abscess was a direct extension of a small mural pneumococcus vegetation, a complication of a bronchopneumonia." They also made this statement, "We were able to find in the literature only these 7 cases of rupture of the heart by abscess described in sufficient detail to rule out other conditions."

The treatment of cardiac disease which develops in the course of an acute infection is the treatment of the primary disease. With the subsidence of the infection, the manifestations of cardiac disease recede in most cases. This does not apply to rheumatic fever, scarlet fever, or chorea. At least a considerable portion of chronic cardiac disease develops as the result of these diseases. Unfortunately, we do not know how to protect the patient with rheumatic disease or chorea from the involvement with valvular disease. To a considerable extent, prophylactic and specific treatment has lessened the incidence and severity of scarlet fever with a corresponding diminution of cardiac disease. The acute vegetative types of endocarditis of whatever causative organisms, are alike in course and prognosis. Rarely does recovery occur.

Cardiac irregularities may occur in the course of acute infections. These may be various types of ectopic beats, or grossly abnormal rhythms such as auricular fibrillation, auricular flutter, or heart block. Ectopic beats are prone to occur in convalescence, which are not common during the height of the disease. It is in the period of convalescence after the cardiac rate has fallen to the normal or below, that this irregularity is usually found. Usually no treatment is necessary. As the patient improves and is more active, the irregularity will commonly disappear, partly because the more rapid normal rhythm precludes the ectopic beats and partly because of diminished irritability of the cardiac muscle. If the ectopic beats persist, after some convalescence, small doses of quinidine sulphate, given frequently.

will often control the arrhythmia. Two or three grains every three hours during the waking period will often suffice to restore the normal mechanism. Unfortunately, there is a tendency to recurrence of the irregularity. Unless the patient is much disturbed by the presence of the irregularity or the frequency of ectopic beats is high, it is often best to ignore them.

Auricular fibrillation may occur, especially in the course of recurrent rheumatic fever or in pneumonia. In the event of fibrillation in the course of acute rheumatic disease, an attempt may be made to restore the normal mechanism with quinidine, as noted above. Following the restoration of normal rhythm, small doses of quinidine should be continued for awhile; if there is a tendency for the mechanism to drop back into a fibrillation and the drug is obviously not effective, the attempt to maintain normal mechanism should be given up. The alternation of auricular fibrillation and normal mechanism is fraught with danger. In the fibrillating auricle, thrombi are often present; the return to normal mechanism implies normal auricular activity. This, in turn, means that the auricle is again contracting as a unit, which implies the possibility that the auricle now may discharge portions of these thrombi into the lung or elsewhere in the body; thereby embolism occurs, perhaps with very serious results. The patient who may be ill with a fresh infection in the course of an old rheumatic heart with auricular fibrillation should not be given quinidine. It is my opinion that unless the quinidine is given within a few days of the onset of fibrillation it should not be given at all. Digitalis will often control the rate for years. It should also be noted that in the course of acute rheumatic disease with auricular fibrillation and a rapid ventricular rate, it is advisable to control the ventricular rate with digitalis.

As for the treatment of fibrillation in the course of pneumonia, digitalis should be given from the start. Digitalis **will** control the rate; it is likely that the normal mechanism will be restored with the subsidence of the acute infection. The use of quinidine in these cases may aggravate the tendency to a prolonged conduction time, the precursor of heart block, which occasionally occurs in pneumonia. The irregularities of diphtheria should not be treated; interference here is dangerous. The cardiac irregularities will usually be succeeded by normal mechanism as the patient recovers.

A discussion of "focal infections" is not appropriate to our subject; but, something may be said concerning acute infections of the teeth and the relationship thereof to cardiac disease. The enthusiasm for radical procedures in the treatment of focal infections has waned, the indications for surgical procedures are discussed with less dogmatism, chronic focal affections are no longer occasions for immediate radical surgery, surgery may be resorted to but only after careful consideration of the indications and contra-indications. Rarely do we hear of the removal of foci of dental infection as a remedy for myocarditis and endocarditis, acute or chronic. In the case of an acute cardiac infection such procedures are so dangerous that they should be categorically condemned. The removal of chronic foci of infection about the teeth for chronic myocardial or valvular disease is less likely to provoke serious results. It is, however, a questionable procedure fraught with danger. If a tooth must be extracted because of the condition of the tooth and distress to the patient, this may be done; it should not be done if fever is present or shortly after a febrile disease. Extraction of infected teeth is fraught with danger enough; if this extraction is done in the course of fever the risk to the patient is intensified. This is especially true of individuals who have chronic valvular disease. MacCrae[21] writes that "Caution should be exercised in the removal of teeth, especially in elderly persons. The mouth should be put in as clean a condition as possible and infected teeth removed at intervals. Wholesale removal of infected teeth may cause a severe reaction or be followed by a general infection." Rushton[22] reported two cases of subacute bacterial endocarditis with death following extraction of teeth. He studied the cases of subacute bacterial endocarditis in Guy's Hospital during the years 1922-37. There were 40 such cases, four of which gave a history of extraction of septic teeth prior to the apparent onset of the disease. Blumer[23] saw and reported 4 cases which followed the extraction of teeth. Death occurred in all, but only one case was definitely cardiac in character. One died of nephritis. Dexter[24] reported twelve cases of sepsis after extraction, and in only one did subacute bacterial endocarditis develop. After stating that "there is scarcely a physician here present who has not seen one or more instances of almost miraculous amelioration of the symptoms of some inflammatory process following the removal of infected teeth," he adds, "That extraction of teeth may lead to extremely grave or even fatal local or general infections is a fact that, I think, has been lost sight of in the general wave of enthusiasm for their removal." If we were sure that extraction of infected teeth would remove the danger of primary or recurrent endocarditis or prevent the development of myocardial fibrosis, if such a procedure protects the patient with chronic valvular disease from further attacks or promotes the recovery of acute inflammatory disease, occasional accidents might be discounted as inevitable accompaniments of a procedure which, in general, is of great value. But such a theory cannot be supported. Rarely are we able to connect the onset of acute rheumatic fever or a recrudescence of old mitral disease with an infected tooth, if the tooth is left alone.

This discussion should not be closed without some reference to the relationship between acute tonsillitis and cardiac disease. It is generally accepted that acute tonsillitis may often reactivate an old, valvular lesion or provoke an initial lesion in a valve, previously normal. Tonsillectomy shortly after an acute tonsillitis is a dangerous procedure; recurrent or chronic tonsillitis presents a problem still open to discussion.

Warburg[25] has made the statement that "It is hardly to be questioned that tonsillectomy does not give noticeable protection against recurrences and myocarditis. It is also questionable whether tonsillectomy provides protection against first infections except in occasional instances." Kaiser[26], in his comprehensive study of the tonsils, writes thus, "Based on our present knowledge of this disease, the significance of the tonsils cannot be overlooked, and in every case of rheumatism, must be given consideration." He quotes Poynton thus: "Even the greatest enthusiasts cannot pretend that the operation is either a certain cure for rheumatism of an infallible prophylactic measure and they will have to confess that in many instances tonsillectomy has no influence whatever on the course of the disease." However, Kaiser believes that "There is on the other hand sufficient proof of the ultimate relationship between throat infection and rheumatism to warrant tonsillectomy in many cases. At present there is no evidence available to show that children without tonsils escape rheumatism in sufficient numbers to justify a universal tonsillectomy."

"There is at hand sufficient evidence to show that children subject to repeated attacks of sore throat are less likely to develop their primary attack of rheumatism, if tonsillectomized, than when no operative treatment is given the tonsils. It has been found that about 30 per cent fewer cases of rheumatism occur in children whose tonsils have been removed than in control children when no operation was performed. When a rheumatic infection has once manifested itself, tonsillectomy does not safeguard the child against recurrent attacks, nor against carditis, except perhaps after an attack of chorea. There is considerable argument among observers that tonsillectomy does tend to stop recurrent throat infections. Such infections predispose to rheumatism. For the present it is, therefore, desirable to recommend tonsil enucleation in children subject to recurrent throat infections."

As long ago as 1924 Ingerman and Wilson[27] published a study of the relationship of tonsillectomy to recurrent rheumatic manifestations. They included in their summary, this statement: "A study of the relation between tonsillectomy and the occurrence of rheumatic manifestations showed that 76 per cent of eighty-eight cases have been followed by recurrence of rheumatic manifestations in from one to eleven years after tonsillectomy. In a control group of ninety-seven cases without tonsillectomy studied over a similar period, 80 per cent showed recurrence of rheumatic manifestations. Non-recurrence of rheumatic manifestations has been observed in 24 per cent of eighty-eight cases with tonsillectomy and in 20 per cent of ninety-seven cases without tonsillectomy."

Recently Boyd[28] has written in a discussion of the etiology of rheumatic fever thus, "On these grounds, removal of the tonsils might seem a rational procedure, but tonsillectomy is not to be lightly undertaken. In a careful study of a series of rheumatic cases, Farnum found that patients from whom the tonsils had been removed developed subsequent acute rheumatic polyarthritis even oftener than the non-tonsillectomized cases. . . . This very important question is still sub judice." The controversy as to the proper procedure in these cases is not closed. It is my opinion that more thought should be given to the consideration of the indications for or against tonsillectomy. It is unwise, even reckless, to take out tonsils shortly after an acute tonsillitis. The operation should never be performed in the presence of low-grade fever in a patient with rheumatic cardiac disease or other disease, but, given the combination of latent and quiescent chronic tonsillitis, with the history of previous acute tonsillitis, tonsillectomy should be considered. A familial history of rheumatic disease may justify the removal of tonsils if the individual is prone to acute tonsillitis or is afflicted with chronic tonsillitis.

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A Study of Acute Nephritis–The Early Phases and the Findings Ten Years Later*

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THERE is almost complete unanimity of opinion that chronic glomerular nephritis is the result of an attack of acute nephritis which failed to heal completely. Vital statistics show the importance of chronic nephritis in morbidity and mortality rates. Therefore, the significance of acute nephritis as a precursor of the chronic form becomes obvious. Yet many cases of the chronic form fail to give a history of a preceding acute attack. The lack of a history of the acute phase does not necessarily indicate that there was no acute nephritis because observations[1] show that in the early stages the disease may be so mild that it escapes clinical recognition. Such patients then drift on into chronic nephritis insidiously without recognition or treatment, and often the first evidence that something is wrong with the kidneys comes after the chronic stage has set in.

It is worth emphasizing again that the most important phase in nephritis is the acute one. When a patient has developed chronic glomerular nephritis, there is little evidence to show that the patient ever overcomes the disease completely. True enough, patients with chronic glomerular nephritis may have periods when the renal lesion seems very inactive and the patient feels quite well; nevertheless, this patient is always a candidate for an acute exacerbation and is never entirely free from the psychic and somatic influences of the chronic renal disease.

From the practical standpoint, there is little dispute over the main facts concerning the etiology, pathology and diagnosis of acute glomerular nephritis. Yet there are many features concerning the pathogenesis of acute nephritis that are not completely agreed upon. While it is very important to know exactly the mechanism of development of the lesion in acute nephritis, the outcome of the disease as far as the patient is concerned probably is not greatly influenced by the mechanism.

One of the great stumbling blocks in the study of acute nephritis is the lack of an early and positive diagnosis of the disease. The early diagnosis naturally leads to prompt and early treatment, which if carried out properly, serves in most cases to bring about a complete healing of the acute inflammation. The lack of prompt and early treatment is known to result in the development of chronic nephritis in many cases. It may be stated emphatically at this time that **there are few diseases where the relationship between the lack of early and proper management and the remote consequences is so apt to be overlooked as in acute nephritis. Few conditions occur where the immediate response to early and energetic treatment appears to be so fruitless and yet is so productive in preventing the remote ill effects of the disease.** The reasons for these are as follows:

A. The classic textbook picture of albuminuria, hematuria, hypertension and edema coming on abruptly is frequently absent.

B. Milder forms that fail to produce such a characteristic clinical picture are more frequent than was thought to be years ago. These may be treated perfunctorily and dismissed from active management when the patient seems to have recovered, but the recovery in many instances is more apparent than real. Clinically the patient may appear to be recovered, but the smouldering lesion of an unhealed nephritis persists to give trouble in the future.

C. The length of time for treatment often has been entirely too short, since it sometimes requires months of careful management after the patient appears clinically well before healing may be said to have occurred.

ETIOLOGY: Although it was thought at one time that infectious diseases, such as scarlet fever and septic sore throat, were the chief forerunners of acute nephritis, there is no doubt that almost any infectious disease may precede the onset of acute nephritis. Most authors thoroughly agree that streptococcal infections of the throat and upper respiratory passages are the chief provocators of nephritis. The chief point of emphasis is that the milder types of upper respiratory infection are not usually considered seriously as factors in the etiology of acute nephritis when in reality they are of utmost importance.

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Loeb, Lyttle, Seegal and Jost[2] point out that when patients with acute nephritis caused by hemolytic streptococcus become healed and subsequently have a recurrent hemolytic streptococcus infection, none develops an acute episode and none has gone on to develop chronic progressive nephritis. The type of immunological or histological change that makes these cases resistant is not understood, but the desirability of bringing about complete and prompt cure is readily understood.

In a series of cases published in 1938[3], 66 per cent were associated with simple upper respiratory infections. (Table II). Winkenwerder, MeLeod and Baker[4] found that 67 per cent of their cases were preceded by upper respiratory infection which took the form of tonsillitis in 44 per cent of this group. Volhard[5] has taken special care to emphasize the importance of what he calls tonsillar ring and its diseases in connection with the etiology of acute nephritis. In his voluminous work on nephritis, he points out that over 75 per cent of cases have their origin in the infections of the upper respiratory passages.

TABLE II. DISEASES PROVOKING ACUTE GLOMERULAR NEPHRITIS IN 150 CASES

Diseases	No. of Cases	Percentage of Total	Condition Became Chronic	Percentage of Total	Patient Died of Chronic Nephritis	Percentage of Total	Total Number of Deaths	Percentage of Total
Infections of the upper part of the respiratory tract	99	66.00	42	28.00	8	5.33	14	9.33
Peritonsillar abscess	22	14.66	3	2.00	0	0	1.	0.66
Cervical adenitis	6	4.00	1	0.66	0	0	0	0
Unknown	6	4.00	0	0	1	0.66	1	0.66
Surgical infections	5	3.33	2	1.33	2	1.33	2	1.33
Pyogenic infections	4	2.66	1	0.66	0	0	1	0.66
Burns	2	1.33	0	0	0	0	2	1.33
Purpura (toxic)	2	1.33	2	1.33	0	0	0	0
Scarlet fever	2	1.33	2	1.33	0	0	0	0
Erysipelas	1	0.66	0	0	0	0	1	0.66
Rheumatic fever	1	0.66	0	0	1	0.66	1	0.66
TOTAL	150	100.00	53	35.33	12	8.00	23	15.33

In the study of the etiology of acute nephritis, it must be stated that in many instances, the cause cannot be determined. The prominent place that Longcope, O'Brien, McGuire, Hansen and Denny[6] give to the hemolytic streptococcus is accepted by practically all authors. Yet it must be borne in mind that other infections as pneumonia, appendicitis, peritonitis and diseases of various sorts may occasionally be the precipitating cause of acute nephritis.

CLINICAL COURSE: From time to time, numerous classifications of acute nephritis have been suggested, but the present trend is to consider acute nephritis both histologically and clinically as a single disease entity. The various features of the clinical pathological picture are merely expressions of grades of intensity of the disease.

The clinical manifestations of acute nephritis may be few or numerous. For the purpose of convenience, these clinical features may be grouped into five chief syndromes as in chronic nephritis. They are (a) urinary, (b) edema, (c) hypertension, (d) retention of nitrogenous products in the blood, and (e) uremia, genuine or convulsive. These main syndromes may all be present in a patient at the same time, but they may be transitory and at times one or another of the syndromes dominate the clinical picture for a period and then disappear entirely only to return at a later date or perhaps never to recur at all.

In recent study of the outcome of over 200 cases of acute nephritis followed from 2 to 17 years, the relationship of these early syndromes to diseases of the kidney later on in life was analyzed.

TABLE I. THE OUTCOME OF 205 CASES OF ACUTE NEPHRITIS

	Number	Per Cent
Recovered	105	51
Became Chronic	73	36
Died	27	13

Of all the syndromes, the **urinary** is the most important because it is always present and easy to study. It is significant in that it is least likely to vary. On many occasions it is the only one of the chief syndromes that occurs in the acute stage. Yet I must not leave the impression that it cannot be misinterpreted. At times pyelonephritis, tuberculosis of the kidney, focal nephritis, febrile albuminuria and tumors of the kidney may be confused with nephritis.

Oliguria is often an outstanding feature of acute nephritis. While the explanation for this impaired flow of urine remains to be clarified, it is probably the result of actual capillary obstruction due to proliferation of the endothelial cells of the capillaries. Sometimes though, the output of urine may be fairly normal, but as a rule this is not true. Usually there is a scanty output of urine of high specific gravity, 1.025 or above. Other times, the specific gravity may be lower, 1.018 to 1.025, and the output less scanty. It is a rule that a low specific gravity points more towards a chronic lesion with a possible acute exacerbation than to an acute lesion. Casts, hyaline and granular type, many red blood cells, even a gross hematuria, and numerous pus cells are also present.

It is best to consider albuminuria as evidence of nephritis, until it is proved otherwise. In a study of our cases, the urinary syndrome was present in every case and occurred alone in 28 per cent. Occasionally it is difficult to determine whether the patient has a genuine acute nephritis or simply a febrile albuminuria. A good rule to follow is that if the urinary changes persist after the antecedent infection has subsided, they strongly suggest the presence of nephritis, while if the albuminuria occurs during the height of fever of the associated infection and disappears with the passing of the infectious disease, the chances are that it is a febrile albuminuria. The quantity of albuminuria in acute nephritis may vary a great deal and the amount of albumin bears no relationship to the degree of glomerular damage. Gross hematuria or so-called hemorrhagic nephritis was present in 32 per cent of our series of cases. The degree of hematuria bears no relationship to the ultimate outcome of the disease. It is very doubtful if the severity of the urinary picture in acute nephritis bears any relation to conditions which appear later in life.

Edema marks the onset of acute nephritis in some cases. It was the first symptom or sign of nephritis in 14 per cent of the cases in our series. Although edema is looked upon by many as a serious matter, the truth is that it is a comparatively benign complication. Usually the edema begins with puffiness about the eyes and face, and it seldom develops into generalized edema in the acute stage. If edema becomes generalized, it is fairly good evidence that the disease is no longer acute, but has gone into the subacute or chronic form. The edema of acute nephritis is not dependent upon a change in the capillary permeability, resulting in the passage of plasma through the capillary wall into the surrounding tissues. This is the most common explanation of the edema that occurs in the earlier periods of acute nephritis and it is the belief shared by such investigators as Page[7], Peters and Van Slyke[8], and Farr[9].

Formerly it was thought that **hypertension** was a constant feature of acute nephritis, but ideas in this regard have changed materially. Hypertension may be lacking throughout the entire course of the disease and may even be absent when chronic nephritis sets in. Very often, though, when chronic nephritis develops, the blood pressure is likely to become elevated. **Hypertension is always a sinister event for a patient with nephritis.** A case of acute nephritis may progress unfavorably without hypertension, but if hypertension develops, the course is practically always an unfavorable one. If hypertension comes on insidiously in the latent period or after the early acute episode has subsided, this is especially unfavorable. Our own observations that persistent hypertension indicates an unhealed renal lesion and is a serious omen conform with those of most other observers. The disappearance of the initial hypertension and the recurrence of it later on when the disease takes on a progressive tendency would suggest that the early elevation may be due to a functional change in the renal arterioles as suggested by Volhard[5], and that the later rise may be dependent on progressive proliferation of the capillary endothelial cells which characterizes the histological changes of acute glomerular nephritis according to Bell[10].

The role of the heart in acute nephritis has attracted considerable attention in the past few years. Formerly the heart was considered by many to be at most of minor importance. More recently, however, numerous observers have described heart failure in this condition as a frequent complication. Master, Jaffe and Dack[11], Rubin and Rapoport[12], and Whitehill, Longcope and Williams[13], have given detailed discussion of the subject. In the series of 138 cases of Whitehill, Longcope and Williams[13], 71 per cent showed clinical evidence of heart failure. They believe that hypertension and toxic damage from the infection could explain some cases, but that the effect upon the heart muscle itself by the toxins of infection is the most common cause of the disease. Hypertension was present in all the cases reported by Rubin and Rapoport[12] in which cardiac complications occurred in the course of acute glomerular nephritis.

In a case reported by the author[1], the autopsy findings showed no hypertension, but heart disease and failure set in within the first few days of the disease and caused death. I think that Whitehill, Longcope and Williams[13] and others have summarized the problem of cardiac involvement in acute nephritis very well when they say that in mild nephritis, heart involvement is uncommon, that it is frequent in moderately severe attacks, and present in nearly all cases of very severe nephritis. Electrocardiographic studies fail to furnish the clue to the myocardial damage. At other times, definite electrocardiographic changes clear up promptly as the nephritis subsides.

Nitrogen Retention and Uremia: An elevation of the blood urea nitrogen may be lacking in the early days of acute nephritis and then suddenly rise after the fourth or fifth day. Since the output of urea nitrogen is dependent to a large extent on the output of the urine, oliguria and anuria cause the N.P.N. to rise. If the case goes to resolution and diuresis sets in, the N.P.N. drops rather rapidly. If resolution fails to occur, then the different syndrome of uremia makes its appearance.

Genuine uremia comes on when the kidney fails to excrete urine and the toxic materials are retained in the blood stream. There is a rising non-protein nitrogen and creatinine in the blood. Genuine uremia is the direct outcome of renal insufficiency. Anything that will cause renal insufficiency will cause genuine uremia. It may be due to obstructive tuberculous destruction, malignancy, pyelonephritis, or it may be the outcome of acute nephritis. In general, it may be considered that the output of toxic substances is dependent on the urinary output and that when there is an interference with urinary secretion and a reduced output of urine, then the toxic substances also are retained and cause uremia.

The so-called convulsive uremia stands out in sharp contrast to genuine uremia. Convulsive uremia is not dependent on renal failure at all. Retention of nitrogen has nothing to do with it. This type is distinguished by high blood pressure associated with edema of the brain. It appears that the edema of the brain leads to convulsions. In such cases the eye grounds show so-called albuminuric retinitis. There is a relation between the hypertension and the eye ground changes. If diastolic pressure is above 120 or 130, edema of the discs is usually found associated with arteriole narrowing, fresh hemorrhages and fluffy white patches. In such cases spinal fluid pressure is usually increased from normal of 150 m. of water up to 300 m. of water. Our work here shows a close relationship between increased diastolic pressures and increased spinal fluid pressures.

The convulsive attack simulates closely epileptic attacks. First there is the convulsion, followed by a clonic convulsion; then comes stupor.

The outlook varies with different patients. Frequently the convulsive uremia clears up and the patient lives for years in comparative comfort. Genuine uremia, on the other hand, usually means that the kidneys have failed and the chances of prolonging life are rather slim.

At one time, the idea prevailed that the severity of the early symptoms of acute nephritis was a measuring stick of the remote consequences, but this has been shown not to be true. My own observations convince me that this is not the case. For a brief illustration, I may refer to an incident that occurred in my practice about 14 years ago:

> The mother, daughter and two sons had septic sore throat and one son developed a severe grade of acute glomerular nephritis. All of the classical textbook features were present including innumerable convulsions, choking of the ocular discs, and a spinal fluid pressure of 300 m. of water. For three or four days it was doubtful if he would recover, but he did, and so completely that within a month there were no traces of the kidney lesion. His brother had no evidences of clinical nephritis, but the urine was examined and the blood pressure taken as a matter of routine in this family. He had a mild albuminuria, a definite microscopic hematuria, many granular casts and nothing else. He was examined repeatedly for a number of months and although the urinary syndrome did not clear away completely, the casts practically disappeared, the red blood cells were found only occasionally, but the albuminuria which was very moderate persisted. About 10 years later, we were fortunate enough to be able to examine these brothers again. The boy who had had the severe nephritis was quite healthy, while the boy with the meager findings had definite evidence of nephritis with a moderate hypertension of 150/110. Otherwise he was quite well.

While this illustration was in our minds dramatic and emphatic, yet we have observed such occurrences many times.

THE TRANSITIONAL OR LATENT PERIOD: The acute phase of nephritis may present varying degrees of severity; the attack may be mild, moderate or severe, but the intensity of the acute period has no particular influence in the determining of the immediate or the remote consequences of the disease. A patient may, at the beginning of the disease, have few or no symptoms and after a week or so a turn for the worse may occur, while the patient with the explosive type of onset may clear up promptly without any after effects. It is well known that the renal lesion in acute nephritis is entirely reversible and that the patient with all the features of nephritis, both clinical and pathological, may clear up rapidly and completely without any recurrence of signs or symptoms of the disease. After the acute episode is over, whether it is mild, moderate or severe, there is a period of about six weeks in which the problem arises concerning the healing of the renal lesion. Occasionally the patient may appear to be completely cured, but more detailed study may show that such is not the case. This period during which the inflammation has subsided but not completely disappeared is known as the **transitional stage or the latent period.**

Syndromes of hypertension or edema may develop insidiously during this period. While the presence of edema at this time is of little consequence, the onset of elevation of the blood pressure is always evidence of grave danger. We are unable to tell when the individual in the latent period will develop an exacerbation which will carry him over into the chronic phase, but if an exacerbation sets in within a few years, the outlook for the patient is bad. It is important to make careful quantitative studies of urinary sediment during this period, for slight variations in the intensity of the disease is otherwise unrecognized.

It is during this transitional stage that the ultimate outcome of the patient is often determined, for a relaxing of the rules of treatment may result in the progression of the half-healed renal lesion into a chronic nephritis. On the other hand, adherence to the rigid rules of management may bring about a complete healing of the renal lesion with complete cure of the patient. The recognition of this unhealed kidney lesion will lead to a vigorous and prolonged attempt to bring about complete quiescence of the disease.

PROGNOSIS: From the study of our series of cases in retrospect, one important conclusion emerges quite clearly—that is, acute nephritis is not such an innocent disease as was formerly believed. While it is true that most patients with acute nephritis recover from the acute episode, this does not mean that they recover completely and remain well. Many of our patients were dismissed as cured after a careful study. Yet years later in our after-stūdy, they turned up with chronic glomerular nephritis. A difficulty in the study of the various phases of acute latent and chronic nephritis is that the patient is seen and treated by one physician, and in after years when remote consequences of the disease develop, he is treated by another physician; therefore, the connecting links between these two main stages are often lost sight of.

This after-study of our patients taught us that the severity of the acute attack has little or nothing to do with the ultimate outcome of the disease, as most of the severe types clear up entirely and many milder ones have become chronic. Looking back over our cases, we have been impressed by the importance of a careful study in the transitional or so-called latent period. It is then that the patient may be saved by continuous active management or he may pass into the chronic stage out of which no patient emerges safely. After patients have once developed chronic nephritis, we have failed to see any make a complete recovery. Patients who recovered from the acute stage were those who were able and willing to live a type of existence and observe the simple regulations that are required for recovery.

AIDS IN PROGNOSIS: A frequent and natural question that arises, "How may it be determined whether the renal lesion has completely healed or if it is progressing towards chronicity or on the road to complete recovery?" At times despite the most careful examinations, there may be difficulty in deciding the true condition of the kidney.

The most important thing about the transitional period is that it becomes recognized. The patient at this time may present the clinical appearance of being in good health and this may lead both the patient and physician into a feeling of false security, followed by a complete discontinuance of all modes of treatment. Sometimes simple examinations, such as microscopic examination of the urine or blood pressure determinations, may be enough to show that abnormality which should be treated persists. On the other hand, special tests sometimes are necessary to show the true condition of the kidney.

There is no one test that is a reliable indicator of the prognosis in every case. A combination of general and special examinations is often required before an accurate prognosis can be given. The following examinations are of value:

1. A study of the urinary picture is of first importance. A quantitative test for albumin is recommended, for a gradually diminishing amount of albumin in the 24-hour urinary specimen is a good prognostic sign. An Addis count done repeatedly will show whether the red blood cells, casts and pus cells are stationary, diminishing or increasing in number. The dilution concentration test as recommended by Volhard and others has been found helpful and reliable. Impairment of the concentration ability points towards a progressive unhealing lesion.

2. Although the blood pressure is not always affected in acute glomerular nephritis, the presence of an elevated blood pressure has a significance. If the blood pressure has been elevated and gradually drops to normal and remains there, one is led to believe the kidney is healing.

3. The blood urea clearance test if performed at intervals of every ten days gives one a fairly precise estimation of the kidney condition. After the acuteness of the initial period has worn off, in favorable cases the blood urea clearance tends to rise step by step toward normal and remains there. In unfavorable cases the urea clearance tends to remain low and if there has been failure to rise or if a falling comes after the short-lived rise in clearance, the outlook is dismal.

4. The presence of an anemia shows a tendency towards progressive lesion while a normal blood count points to a favorable outcome. A study of the plasma protein is of value. If the plasma protein is below normal, one hesitates to give a good prognosis at the time. However, a normal plasma protein may occur in the presence of a progressive renal lesion.

5. Finally, we have come to look upon the erythrocyte sedimentation rate as a valuable aid in prognosis. While we cannot say that it is 100 per cent accurate as a prognostic measuring stick, it nearly always is. We have employed this test for over 15 years in our Nephritic Clinic, and in a general way, we believe that a rapid sedimentation rate indicates an unhealed lesion, becoming progressive. A slowing down of the sedimentation rate points to a subsidence of the inflammation while a normal rate points to a healed or almost completely healed lesion.

Before leaving the question of prognosis, I want to add that when all the tests are made and corrected, a fairly definite opinion may be formed as to the outcome of the individual case. Yet there is something more that is necessary in giving an opinion in this type of work and that is intuitive clinical instinct which comes to one who has seen or is seeing a large number of these cases. The general appearance, the presence or absence of pallor, the movements and mental state of the patient, in fact, all clinical impressions are just as important as the special laboratory methods of investigation.

THE EFFECT OF TREATMENT ON PROGNOSIS: Safeguarding the patient against repeated attacks of infections is an important requisite in treatment. The removal of foci of infection appears to be an important phase of treatment. though the exact relationship of foci of infection to nephritis is not clear.

By far the most important factor in treatment is the regulation of diet. It has been suggested by Addis[14] that rest to the diseased kidney is as important in therapeutics as it is in other disease. Rest as far as the kidney is concerned is obtained by diet regulation and particularly by a diet that is low but adequate in protein content. Addis also has emphasized that the diet must be adequate in minerals, vitamins and protein. Considerable experimental work has been done on the effect of protein on the healing of kidney lesions. Farr and Smadel[15] have given fairly good proof that animals with nephritic lesions fed on a high protein diet died prematurely in uremia while those fed with a low protein diet had an arrest of the progress of the disease, and complete healing of the kidney frequently followed. The transfer of these experimental theories to clinical work is justifiable in a limited way. A diet inadequate in protein will lead not only to atrophy of the kidney already damaged but to dwarfing of the patient, both physically and mentally. A very low protein diet may be beneficial as far as the kidney is concerned, but, in the words of older observers, such a procedure may save the kidney but cause the death of the patient. A diet with an overload of protein in it will lead to hypertrophy of the kidney and eventually to kidney failure.

By the proper use of diet, one may furnish the optimal amount of protein, which is about .75 to 1 gram per kilogram of body weight, and a sufficient calcium and vitamin intake. It is a simple thing to supplement the vitamins in diet with the various concentrates which are on the market today. It is possibly true that in addition to the good that vitamins, especially A and D, do for nutrition, they also seem to have a special function in nephritic treatment in that they elevate the resistance of the patient's upper respiratory tract for infections which so frequently lead to renal inflammatory lesions.

In the transitional or latent period, a diet which is high in protein may appear to be useful and satisfactory in all respects because the patient may feel quite well and the other evidences of kidney damage may fail to show up. But after several months, the unfavorable aspects of such a high protein feeding may become recognized and from this time on, the kidney may deteriorate and in a brief time the patient may lose his healthy appearance and he too deteriorate.

The amount of rest required by the patient after the acuteness of the acute phase has worn off is easy to outline, but it is difficult to convince the patient of the importance of this régime. Restricted activity should be continued until after the fourth month of the disease. If the disease continues after the four-month period, restriction of activity is less important because the disease at this time has gone into its chronic phase and further efforts to bring about healing of the kidney are usually futile.

SUMMARY AND CONCLUSIONS

1. Chronic glomerular nephritis is the result of an attack of acute nephritis which fails to heal completely, though a history of a preceding acute attack may be lacking. The acute attack is important because it is at this period when chronic nephritis may be prevented.

2. Upper respiratory infections cause the greater proportion of cases of acute nephritis, though any infectious process may be looked on as a precipitating factor.

3. The five chief syndromes of acute nephritis—urinary, edema, hypertension, retention of nitrogenous products in the blood, and uremia, both genuine and convulsive—are discussed.

4. The intensity of the acute attack does not influence the ultimate outcome of the disease. Severe types may clear up entirely and mild attacks may develop into chronic nephritis. The transitional stage of the disease is important because relaxing of treatment during this period may result in the progression of the half-healed renal lesion into chronic nephritis.

5. After a patient once develops chronic nephritis, complete recovery cannot be expected. Recovery from the acute stage depends on the patient's willingness to follow a regulated life.

6. The importance of urinary tests, blood pressure, blood urea clearance, plasma protein and erythrocyte sedimentation rate determi-

nations as aids in prognosis are discussed.

7. Treatment consists of safeguarding the patient against repeated attacks of infections as removal of foci of infection, rest to the kidney by diet regulation particularly a low but adequate protein content with sufficient minerals and vitamins, and restricted activity for at least four months. If there is no improvement in the condition after four months, it is probable that the patient has already developed a chronic condition and further restriction will be futile usually.

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The Premature Infant in the Public Health Program*

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FURTHER reduction of infant mortality depends largely on reduction of neonatal mortality which in turn entails a great reduction in the number of premature births and of deaths of infants prematurely born. These interested in making special efforts towards these goals now have several advantages. On the side of prevention the public has been educated to a wider appreciation of the value of prenatal care in relieving certain maternal conditions underlying premature birth and there has been a greater extension of such care through public health programs. On the side of saving the lives of prematurely-born infants, most of the measures used to reduce infant and neonatal deaths tend to reduce deaths from premature birth and in addition the technique of care of these infants has been improved and new methods of care have been developed.

There exist, however, certain handicaps with which public health departments—physicians, nurses, social workers, and nutritionists—are confronted in developing and extending their work in the field of prematurity. Some of the principal handicaps are: We do not know the cause of premature birth in about half of the cases in which it occurs; among the cases in which the cause is known are a good number of conditions that we do not know how to prevent; usually we cannot predict a premature birth; and, finally, we are limited in our knowledge as to the best methods of care for infants prematurely born.

In spite of these handicaps definite progress has been made in recent years. In this connection the development of the present programs will be discussed and some plans for future developments will be outlined. I shall try to give you both a public health and a clinical perspective, hoping that in this way you may go on with even more interest and vigor to tackle this serious problem of premature birth.

Data in regard to morbidity and mortality from premature birth have been and still are somewhat meager. Less than ten years ago very few hospitals kept statistics in regard to premature infants. Recognizing the need for such basic information the Children's Bureau in 1934 sent out a member of the medical staff, a pediatrician, who visited more than 100 hospitals scattered throughout the United States. Only four or five of them were found to have statistical data as to the results of care of premature infants. Methods of care of premature infants are developed and tested in hospitals which are research institutions; obviously analyses of results of various methods of care must be made and if proved to be effective can then be released for the use of professional workers. There were, of course, a few centers at this time where these contributions were being made.

The information obtained revealed a lack of uniformity in defining premature birth in a way that is basic for statistical analysis. The Academy of Pediatrics now recommends that all infants born alive who weigh less than 2500 grams (5 lbs. 8 ozs.), regardless of period of gestation and regardless of how short a time they live, shall be included in reports as premature. The next step was to recommend reporting of births and deaths of premature infants in certain birth-weight groups because the mortality of these infants bears such a close relation to their birth weight. In addition, for reporting mortality, uniform age periods should be used such as are used in reporting neonatal mortality.

With establishment of definitions and standards numerous reports of hospital statistics have appeared in medical literature which show that even under favorable conditions more than

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*Read at the annual meetings of the Louisiana Association of Public Health Workers, New Orleans, La., December 10, 1940, and the Mississippi Public Health Association, Jackson, Miss., December 11, 1940.

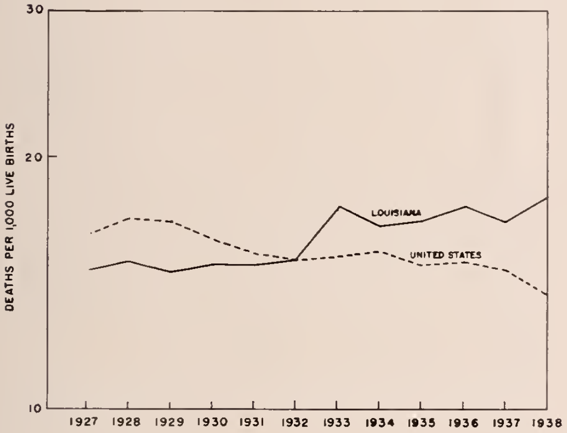
†From the Children's Bureau, United States Department of Labor.

85 per cent of premature infants weighing less than 2 lbs. at birth die but that only about 6 to 14 per cent of those weighing between 5 and 5½ lbs. die.

Since nationwide mortality rates from premature birth under 1 month had not been published the Children's Bureau sent clerks to the Bureau of Census and obtained data from which tables and charts were prepared for distribution. We now have for the United States the trend of the mortality rate from premature birth under one month for each year from 1915 to 1938 and only since 1936 has it shown a definite downward trend (from 15.1 per 1000 live births in 1936 to 13.8 in 1938, a decrease of about 9 per cent). Figure, I, showing the trends from 1927 to 1938 for the United States and for Louisiana, reveals that the mortality rate for Louisiana was high in 1938—18.2 per 1000 live births—and that it appears to be increasing, although this may be partly a matter of better reporting. Figure 2 shows that 47 per cent of the deaths under one month in both the United States as a whole and in Louisiana are reported to be due to premature birth.

Figure 1

TREND OF MORTALITY FROM PREMATURE BIRTH IN THE FIRST MONTH OF LIFE, LOUISIANA AND UNITED STATES, 1927-1938



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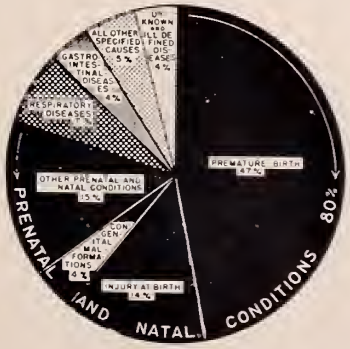
The accumulated evidence shows that without question premature birth is today a real public health problem in the United States and especially in Louisiana. It is clear that it is important to develop further programs to extend and improve prenatal care and to extend and improve care of individual premature infants in hospitals and homes. With the willing acceptance of this burden by health departments (latest reports to the Children's Bureau show that 23 states, the District of Columbia, and Hawaii have some plan) the demand for information in regard to prevention and care increased greatly. In response to this demand the reports of authorities in the field were studied by the Children's Bureau staff and an extensive bibliography was prepared and

Figure 2

CAUSES OF NEONATAL MORTALITY, 1938

LOUISIANA



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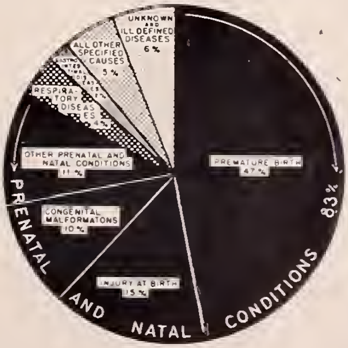
UNITED STATES



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made available in mimeographed form. In addition, that section of infant care which gives instructions to the mother about caring for her premature infant until she can secure medical and nursing advice and to help her in following this advice was rewritten and amplified and is undergoing further revision at the present time.

While these efforts were being made to meet one aspect of the problem it was evident that knowledge along certain lines was inadequate and that in some areas there was little or no scientific basis for certain procedures used in care of premature infants. Although the basic principles of care of premature infants are well known, namely, to keep the infant warm, to feed him properly, and to protect him from infection, the best methods for carrying out these principles are not established or if established are somewhat difficult of attainment.

With a view to testing various methods of care and with the hope that possibly some new and more adequate methods of care of premature infants might be developed, the Children's Bureau, in co-operation with several medical school hospitals has made and is making studies to test various methods of care and to develop new and more adequate methods, if possible.

FEEDING OF PREMATURE INFANTS

STUDIES are being made at New York Hospital in which small premature infants are put in a metabolic chamber with a glass top. The infants can be observed for several hours a day without being upset in any way. These studies require the time of a specially trained physician to supervise the experiments and two specially trained nurses who weigh and feed the infant before the test, watch him and collect the urine and feces during the test, and weigh him and feed him after the test. Finally the studies require the services of a technician who makes the chemical analyses of the air collected from inside the chamber and of the urine and feces of the infant. As a result of these studies it has been determined that the premature infant requires no more than 120 calories of food per kilogram of body weight (about 55 calories per pound) to grow satisfactorily after the second week of life and probably requires less during the earlier period; that he will thrive on a relatively low intake of fat (when on cow's milk ½ skimmed milk is satisfactory); that if the fat in the milk is increased beyond this amount to increase the calories in the feeding the premature infant may simply excrete more fat in the stools[2].

CLINICAL EXPERIENCE has shown that the feeding of the premature infant is not difficult, provided breast milk is available. Nursing at the breast should not be permitted until the sucking and swallowing reflexes have been tested and until regular respiration is well established and any tendency to cyanotic attacks overcome. The milk should be given in small amounts preferably with a medicine dropper with soft rubber tip. Premature babies are usually not given milk until they are at least 18 hours old. It is best not to give even boiled water until after the baby is about 12 hours old. Great caution must be taken to begin with small amounts of water and milk and to increase the amounts very gradually. Mistakes are most often made by increasing feedings too rapidly both in volume and in caloric value in an attempt to make the infant gain weight rapidly. A steady though perhaps slight gain maintained from week to week, without vomiting or frequency of stools, is the desired goal. It is important to maintain the mother's supply of milk. This is made difficult, however, by the fact that she often leaves the hospital before her baby can be taken home.

The Children's Bureau is now co-operating in an analysis of clinical records of premature infants cared for in the past 7 years in two university hospitals with a view to determining the effect of human milk compared with cow's milk feeding on the growth and nutrition of these infants.

Clinical observations have shown that premature infants will thrive on cow's milk mixtures provided the milk is boiled and carbohydrate (5 to 10 per cent) added. Partial skimming of the milk appears to increase its utilization by the premature infant.

Data on the optimum requirements of the premature infant for various vitamins are very meager. There is nearly general agreement, however, that the needs are greater than those of the full-term infant. Even those infants who receive breast milk may lack certain vitamins entirely or obtain certain ones in inadequate amounts. The physician will have to decide on the amounts of each vitamin that he considers optimum for the infant according to standards that are available and order it to be given in such form that the infant will receive this optimum at the age at which it is required. For example, the need of the premature infant for vitamin C in adequate dosage is well recognized. The infant must take about 1 ounce of orange juice a day to obtain 25 mgm. of vitamin C. It is obvious that small premature infants in order to take the required amount must be given orange juice in divided doses in the milk or in the form of ascorbic acid. The premature infant's need for vitamin D has been estimated as at least 2 or 3 times that of the full-term infant. To administer this vitamin as cod liver oil in full dosage at an early age to very small infants has obvious disadvantages from the point of view of volume and the danger of aspiration of oil resulting often in pneumonia. A concentrate of vitamin D that contains vitamin A also should be given at the beginning of the second week of life.

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[2] Clinical Problems in the Newborn Infant, by Harry H. Gordon, M.D., pp. 3 and 4. The Connecticutt State Medical Journal, Vol. IV, No. 4 (April 1940).

REGULATION OF BODY TEMPERATURE

Several years ago Blackfan and Faglou[3] reported the results of studies which showed that optimum environmental conditions for premature infants are a temperature of 75 to 100 degrees F. with a relative humidity of about 65 per cent. The Children's Bureau is co-operating in further research in this field, the results of which are not yet ready for publication.

In co-operation with the Bureau of Standards a study of 12 different types of incubators and cribs has been made to determine their efficiency and safety. The report of this study with tentative specifications has been recently published[4] and will, therefore, not be discussed here in detail. It should be pointed out, however, that it is important that the infant's face and upper chest should be clearly visible at all times. The source of heat should be placed so that it will warm the baby most efficiently. The temperature should be controlled in order to maintain the infant's temperature at as nearly a constant point as possible. Thermostats should be used with electric apparatus and simpler devices for nonelectric heaters are possible to make. Studies in progress at the Children's Hospital in Boston make it appear that the maintenance of a stable temperature is more important than the actual level maintained. A word of caution should be given here. The incubator temperature should be gradually increased to a point at which the infant's temperature will not go above that desired. At least 1- or 2-hour readings of the infant's temperature (rectal or axillary) and of the incubator temperature should be made until satisfactory relationships are established.

The spontaneous activity of the premature infant should be restricted as little as is compatible with keeping him warm. He moves about in the uterus after the fifth month and is prepared to do so after birth. Observed activity of small premature infants lying naked in incubators is the basis for specifying a space of 9 inches from mattress to cover, a space greater than was available in several of the incubators tested. If circumstances make clothing necessary a one-piece wadded jacket or soft flannel gown may be used. Pads of cotton or disposal tissue covered with gauze may be placed so as to absorb urine and catch stools. Blankets should not be wrapped tightly and should be light weight.

PREVENTION OF INFECTION

This brings us to consideration of the last principle of care, namely, the prevention of infection. Infection may be prenatal, intrapartum, or postnatal. Syphilis is the commonest form of prenatal infection and is responsible for a large proportion of premature births (both live births and stillbirths). Fortunately, it is a preventable cause of premature birth if specific treatment is given before the fifth month of pregnancy. Postnatal infection is usually acquired through the cord stump, the skin, or the respiratory tract. With the exception of so-called epidemic diarrhea of newborn infants the etiology of which is unknown gastro-intestinal tract infections are usually secondary to infections elsewhere. To avoid infection handle the infant as you would a sterile package in the operating room; do not bathe him or rub his skin, and treat the cord dressing as instructed by the attending physician. No one should enter the room in which a premature infant is being cared for except the physicians and nurses, and no one with a respiratory infection should attend the premature infant.

PROGNOSIS FOR PREMATURE INFANTS

Special studies have shown that at least 5 per cent of all infants born are born prematurely. This means that in the United States in 1938 more than 114,000 infants were born prematurely. In the same year more than 31,000 neonatal deaths were reported by the United States Bureau of the Census as directly due to premature birth. Sixty-one per cent of deaths of infants from prematurity occurred on the first day of life, 26 per cent from 1 to 6 days, and only 13 per cent between the end of the first week and the end of the first year (Fig. 3).

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[3] The Premature Infant, by Kenneth D. Blackfan and Constantin P. Yaglou, p. 1233, American Journal of Diseases of Children, Vol. 46, No. 5 (Nov. 1933).

[4] Incubators for Premature Infants, by Ethel C. Dunham, H. C. Dickinson, Grace J. Gowens, and Juanita Witters, p. 1415, American Journal of Public Health, Vol. 30, No. 12, (Dec. 1940).

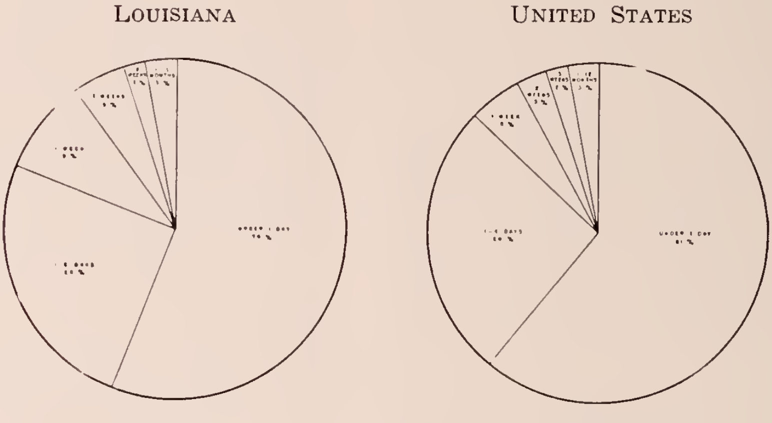
Studies of results of hospital care of premature infants show that mortality is inversely proportional to birth weight. Hess reports that of 1499 premature infants weighing less than 2500 gms. (5 lbs. 8 ozs.) on admission to the Sarah Morris Hospital, 87 per cent of those who weighed between 2000 and 2500 gms. (about 4½ to 5½ lbs.) were "graduated"; 75% of those between 1500 and 2000 gms. (about 3¼ to 4½ lbs.); 43% of those between 1000 and 1500 gms. (about 2¼ to 3¼ lbs.); and that only 16% of those weighing less than 1000 gms. (about 2¼ lbs.) at birth survived[5].

The chief causes of deaths of premature infants in order of frequency, as shown by Potter and Adair, are hemorrhage, anoxemia, malformation, and infections[6]. Birth injury, largely intracranial hemorrhage, is a well-known cause of physical and mental disability in premature infants who survive.

The prognosis for the mental development of premature infants is naturally a matter of concern to all who are interested in programs to improve their care. Benton has recently made a comprehensive review of this subject[7]. He points out there is a wide variation in the quality of the contributions as well as in the conclusions reached. He states, however, that all of the investigations with two exceptions indicate that prematurely born children show developmental retardation during the first 2 years of life. Mohr and Bartelme reported that if allowance is made for the degree of prematurity no reliable difference between the mental growth of premature infants and that of their full-term siblings was found; that there was no significant relationship between birth weight and intelligence; and that the

Figure 3

AGE AT DEATH OF INFANTS THAT DIED FROM PREMATURE BIRTHS, 1938



LOUISIANA

U. S. Department
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Children's Bureau

UNITED STATES

Based on Reports
of U. S. Bureau
of the Census

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[5] The Physical and Mental Growth of Prematurely Born Children, by Julius H. Hess, George J. Mohr, and Phyllis F. Bartelme, p. 15. University of Chicago Press, Chicago, 1934.

[6] Fetal and Neonatal Death, by Edith L. Potter and Fred L. Adair, p. 16. University of Chicago Press, Chicago, 1940.

[7] Mental Development of Prematurely Born, by Arthur L. Benton, American Journal of Orthopsychiatry, Vol. 10, No. 4 (Oct. 1940), pp. 719-746.

children who had suffered intracranial hemorrhage at birth tended to be retarded[8]. This study was based on 250 white children weighing less than 2500 grams (5 lbs. 8 ozs.) at birth and is cited by Benton as of special value because consideration was given to the socioeconomic status of the children, objective test scales were used for the estimation of the intelligence of the children, and a control group was investigated. Benton refers also to the work of Gesell who has reported detailed studies of the behavior development of several prematurely born infants (born after a gestation period of less than normal) whom he followed over a period of several years. He found that "present data, though scanty and sometimes contradictory, indicate that prematurity of birth in itself does not markedly distort, hasten, or retard the course of mental development, when the age of the infant is reckoned from conception[9]."

Reduction of Mortality from Premature Birth

Hess reports that among infants cared for in the Sarah Morris Hospital there was a decreasing mortality from 1922 to 1933, both among infants born at home and born in hospitals. This reduction of mortality he ascribes to several factors—to education of physicians and parents to advantages offered by the Premature Infant Station, to the increased number of infants sent to the station within the first 24 hours after birth, and to improved facilities for transporting the infants to the station[10].

Stoesser, after instituting a new program for caring for premature infants at the Minneapolis General Hospital, reported lowering of mortality rates. During a four-year period (July 1930 to July 1934), in which isolation technique and a definite feeding program was established, the mortality rate dropped from 61 to 33 per cent; during the next four-year period (July 1934 to July 1938), in which special emphasis was placed on resuscitation, the mortality rate dropped from 27 to 19 per cent[11].

The city-wide plan for care of premature infants that has been in operation in Chicago for about 5 years has resulted in a 31% reduction in the neonatal mortality rate from premature birth[12].

During the past 5 years state health departments have begun to take steps to reduce mortality from premature birth. According to the most recent reports received by the Children's Bureau of 28 states, the District of Columbia, and Hawaii have already made or plan to make special provisions for the care of infants as a part of the work of their maternal and child health divisions.

A State-Wide Program for Improving the Care of Premature Infants

To be effective a state-wide or even local program for the care of premature infants should be a joint endeavor of state and local health departments, hospitals, and practicing physicians. The various parts of the program must be correlated by joint planning and by frequent meetings of the representatives of these groups. Each has an important part to play.

The hospitals need to be sure that they have the facilities and are using the techniques necessary for the proper care of premature infants born within their walls and those who might be brought in for care after being born elsewhere. In some states certain of the larger hospitals with a sufficient volume of work, adequate staff and equipment, and sufficiently perfected techniques might assist the health departments and smaller hospitals by giving short intensive courses in the care of premature infants for nurses or even for physicians. The health departments might assist some of the hospitals by furnishing expert consultants, by making available special equipment by loan, and in certain instances affording opportunities for some of the nursing staff to attend courses in the care of premature infants. It is the responsibility of the hospitals to report promptly to the local health departments when a premature infant is born or is admitted to that hospital so that the public health nurse may make immediate contact with the physician and may begin teaching the mother how to follow the physician's instructions as to care for the baby as soon as it is feasible. Whether the teaching while the mother is still in the hospital is to be given by the hospital or health department nursing staff must be decided. If it is to be given by the hospital staff the correlation of teaching in the hospital and in the home must be worked out. Opportunity should be given for at least one visit in the home by the public health nurse before the infant is sent home from the hospital and for any arrangements that might be necessary with welfare agencies. Hospitals may serve as educational centers for physicians in the care of premature infants by means of discussion of this subject at staff meetings.

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[8] The Physical and Mental Growth of Prematurely Born Children, by Hess, Mohr and Bartelme. For reference, see above, footnote 5, p. 9.

[9] The Mental Growth of Prematurely Born Infants, by Arnold Gesell, p. 680. The Journal of Pediatrics, Vol. 2, No. 6 (June 1933).

[10] The Physical and Mental Growth of Prematurely Born Children, by Hess, Mohr and Bartelme, pp. 12 and 13. See footnote 5, p. 9.

[11] Reducing Premature Infant Mortality — With Special Emphasis on Resuscitation, by Albert V. Stoesser, Journal-Lancet, Vol. 59, No. 5 (May 1939), pp. 236-241.

[12] Personal communication to the authors from H. N. Bundeson, M.D.

The State Health Department also may contribute to keeping practicing physicians up-to-date in this phase of pediatrics by making sure that the subject is treated in extramural refresher courses; by seeing that articles dealing with the care of premature infants, or arousing interest in them, are provided for medical journals; and by distributing reprints of articles and other available literature. This is an important subject for the joint consideration of the health department's obstetric and pediatric advisory committees. Methods and techniques of providing care for premature infants should have an important place in staff educational projects for both state and local personnel, and the field staff of the divisions of maternal and child health, of public health nursing, and of engineering, can be particularly helpful to local workers. Heated beds or boxes for premature infants, or plans for making them, may well be furnished by the State Health Department, perhaps even a choice of several varieties that may be useful under different conditions.

The local health officer may be instrumental in securing places on the programs of local medical meetings for discussion of the care of premature infants. It may often be necessary for the health officer to provide consultation on their care to local physicians, particularly in remote rural areas, and he should fit himself for this responsibility or provide a staff member to meet this need. Or, better still, if a pediatrician is within reach, the health officer may make it possible for this consultation to be available. On him falls the special responsibility for seeing that the care of the premature infant is studied and discussed at local public health staff conferences—and joint discussion by physicians, nurses, and sanitarians should be helpful to all of them. The fact that the premature infant is particularly sensitive to environmental conditions gives the sanitarian a considerable share, both in the discussions with other staff members and in advising and helping the family make the home fit for the premature infant. On the health officer falls the final responsibility for seeing that equipment for the care of the premature infant is always available and in good order. There is no time after the baby is born to ask grocers for boxes or to look for bottles to fill with hot water. Above all, on the local health officer falls the responsibility of seeing that the providing of facilities for proper prenatal care, and for natal and neonatal care, for special care of the premature and for infant and child care, are made available for the people in his jurisdiction, or at least of working unmittingly toward this end.

The responsibility of the public health nurse is a major one. Not only must she know and be able to demonstrate and teach the techniques for the all-important nursing care of premature infants but she must be able to adjust her schedule to make an immediate visit when the birth of a premature infant is reported. She must have her equipment ready at all times—not only the special bed but, for instance, medicine dropper with soft rubber tip for feeding him. On her falls the responsibility for seeing that there is someone in the home at all times who knows how to care for the infant. It is she who may need to mobilize community resources, official and unofficial, to obtain for the family necessary things they may not be able to obtain for themselves. A premature infant is in itself a matter of community interest, but this interest frequently needs to be guided into channels where it can do the most good.

It goes without saying that the whole local health department staff will keep on such terms with practicing physicians that each will use to the fullest extent the services of the other, and will devise mechanisms to make this working together smooth and easy.

A local program for the prevention of deaths from prematurity is made simpler by the fact that the principles of care of the occasional premature infant are essentially the same in kind, if not in degree, as those that govern the care of the everyday full-term infant. Measures directed according to the best of our present knowledge toward the prevention of prematurity are inherent in an adequate program of prenatal care—at which we have long aimed even if we still have not provided it anywhere. Many mothers are already receiving adequate delivery care and our intentions for the not-too-distant future include this service for all mothers. Although it is imperative for a premature infant to have an immediate visit from the public health nurse, we are beginning to feel that a visit within the first 48 hours is almost a right of every newborn infant, and that the nurse's schedule should be sufficiently flexible to allow for it.

The special bed provided for premature infants by many state and local health departments has not only served to dramatize the fact that the tiny premature infant should be kept at an even temperature and should be protected from infection and from unnecessary handling, but has also provided in a measure for these needs. In the same way a scientific, thorough, and well-integrated public health program for the care of premature infants may be expected not only to save the lives of many of these tiniest persons but to point up principles and strengthen public health mechanisms that should save the lives of many full-term newborn babies and of their mothers as well.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

You will note in this issue the program announced for the State Pediatric Society which meets May 12, at the Buena Vista Hotel, Biloxi, Miss. This is a very fine program all the way through. The guest speaker at the banquet is to be Dr. George Lyon. Every doctor in Mississippi should be interested in the subject he is to discuss. Pediatrics has made wonderful progress in Mississippi for the last few years. The leaders in this specialty deserve much credit.

Heredity plays a big role in the health of the child. The Auxiliary has a fine opportunity to help educate the laity on important hereditary factors which if taken into consideration will result in a stronger race of people, longer in years of life and greater in volume, as we pass the decades and the centuries. Almost every person has his tendencies to disease. The offspring of two weaknesses produces a further weakness.

The alcohol problem is rapidly becoming a major public health problem especially as it relates to prenatal care and health in infancy. It is a major social and economical consideration. The offspring of the drinking mother is certainly not expected to be as strong mentally or physically.

April 7 to 16 a series of lectures on infantile paralysis by outstanding medical authorities will be presented at Vanderbilt University, Nashville, Tenn. Dr. Ernest W. Goodpasture, head of the Department of Pathology at Vanderbilt, is supervising the arrangements. The lectures have been designed to cover thoroughly the entire field of the disease and will serve as the material for publication by the National Foundation. They will also compose a critical review, with bibliography that should be useful as a stimulating educational production, as well as a work of reference for those contemplating or engaged in any investigative work.

The American Medical Association will hold its annual session in Cleveland, Ohio, June 2-6, 1941. The A. M. A. is the greatest medical organization in the world. Medical organization is more important than ever before, important for the dissemination of medical knowledge and for the purpose of discussing medical problems. We have many medical organizations, many are purely scientific, but our county, district, state and American Medical have to do with the practice of medicine in all of its relations as well as the advancement of scientific facts, such as medical education, medical economics, medical legislation and medical ethics. On May 13-15 our state association will hold its annual session at Biloxi, Miss., with the Buena Vista Hotel as headquarters. Keep this date in mind and also the date of the A. M. A. Attend both of them if possible.

What is state medicine? The political solution of the continuity of the sacred relation between the doctor and his patient.

The Nineteenth Annual Meeting and Scientific Session of the American Academy of Physical Medicine will be held in New York at the Hotel Pennsylvania on April 28, 29, 30.

The small hospital out on the firing lines of human affairs is our greatest means in carrying medicine to the masses at a reasonable cost and at the same time it is a big factor in social and economical security for the American way of life.

The Southeastern Section of the American Congress of Physical Therapy will hold its session at Chattanooga, Tennessee, at the Hotel Patten on Sunday, Monday and Tuesday, May 25, 26, 27. An interesting program has been arranged for this meeting.

There has just come to the editor's desk, from Mississippi Tuberculosis Association, an interesting and comprehensive 48-page book on CHEST X-RAY INTERPRETATION, with special reference to tuberculosis. We are informed that this book will be sent free and postpaid to any physician who will send a request by card or letter to Mississippi Tuberculosis Association, Sanatorium, Mississippi.

Expressions of delight are coming from all over the state that Dr. Rudolph Matas, of New Orleans, is to deliver the annual oration at the state meeting at Biloxi on Tuesday night, May 13. They are anxious to hear his tongue of silver express his words of wisdom.

Major Lawrence Long is doing some fine work in holding district meetings over the state to bring about a better understanding with the local draft boards, the appeal boards and the army officers. His plea is to "come let us reason together." He is now asking for "the pick of the flock and the cream of the crop." Dr. Long is well suited for the job for which he was selected and he is discharging well his duty.

The meeting of the Northeast Mississippi Thirteen Counties Medical Society in Starkville in March was mighty good. Dr. Scales, Jr., handled the meeting in splendid style. The editor enjoyed the local meeting in Biloxi recently. The doctors were mighty cordial. We attended a most delightful meeting at Centerville at the Field Hospital. The Field Brothers are doing a fine work. It is good to know them. The Thornhills and other good men were at this meeting.

On May 12, the Mississippi State Hospital Association will hold its annual session in Biloxi with the Buena Vista Hotel as headquarters. This association has as its president, Dr. E. R. Noble, of Rosedale, with Dr. J. C. Culley as vice-president. There should be a very close relation between the hospital association and the medical association, each is dependent upon the other. Our hospitals are the means by which the doctors are better able to carry medical service to the people. Every doctor who can should attend the state meeting of the association.

You will note in this issue the account of the blood plasma bank at St. Joseph's hospital in Memphis. This is fine for this section. The John Gaston Hospital at Memphis is doing a fine service along this line also. The American Red Cross as usual is found in the front ranks of service and it is creating reservoirs of blood plasma. Blood plasma has some distinct advantages over whole blood. It eliminates typing or cross matching making it available for more speedy use. It will keep longer and it can be transported without damage so much better than whole blood. Its administration is more simple. It is easy to utilize great numbers of people to secure the plasma. The utilization of blood plasma is indeed a great step forward in medicine.

We note that some local boards are changing the classification of some of the medical students in school, giving them more time to complete their courses. This is as it should be. It is important for Mississippi and the Southern states because of the approaching shortage of doctors, especially in the rural communities. Mississippi has about fifteen per cent less doctors than it had fifty-five years ago. More than forty-two per cent of these are past sixty years of age. One-third of the doctors in Mississippi under forty are located in just three cities. We cannot afford to stop even one graduate at this time. The argument has been put forth that doctors must have more clients in the rural communities to make a living than they use to. This may have some truth in it. On the other hand the people are calling for more medical service than in years past. Even if we do have just a few million people who are not supplied with doctors and do not receive the medical care they should, they are American citizens and should have medical service just the same as the more fortunate. If one sheep is lost the good shepherd goes and hunts this one until it is found. If one person is lost at sea we do not forget him. The strength of the nation is in the health of the people. These young men cannot do much now if taken into the army, any more than any other private, but when they have finished their course in medicine they can be of untold benefit to the people either in civil life or in the army service. So we wish to commend the boards for permitting the students to pursue their medical studies. We think their judgment is fine.

Our state meeting is near at hand. We are just off the press with the April issue and are working hard on the May issue, which is the real state meeting issue. The date is May 13, 14, 15. We should have a good attendance. On Wednesday night we will have a public meeting. Tuesday night will be open to the public as usual, but on Wednesday night we plan to have a first aid picture, then an address by a doctor and a laymen. It will be good. Make your reservation if you have not done so for the meeting. The Buena Vista Hotel is headquarters. Dr. B. B. O'Mara has charge of all exhibits, both scientific and commercial. Write him if you are interested in space. We have assurances that Camp Shelby will be well represented at the meeting.

Governor Johnson in his talk before the Hospital and Public Health division of the coordinating board in Macon last week made it clear that he is sincerely interested in the hospital service that is needed for the people of Mississippi.

Postgraduate education brought out to the busy practitioner as we have it in Mississippi is a great service both for the doctor and for the people. If you have the vision to see surely you can understand its benefits.

In the last sentence on page 562 in Dr. Robert Kimbrough's paper, foetal mortality is referred to instead of maternal—"the foetal mortality, however, is 88.1%," is what it should have been.

We think that much interest has been created in the cancer problem in Mississippi this year. The Woman's Field Army is making the people more cancer conscious. Meridian has taken the lead this year. Much credit is due Dr. Carl Stingily.

On to Biloxi May 13, 14 and 15.

Let us not stop until cancer is whipped.

What is life and what is death? Who knows and who can answer? It has been said that life is positive and death is negative—that we begin to die when we begin to live and that both processes end simultaneously. Perhaps this is true, perhaps it is not. But we must know that change is constant. Energy released produces motion — motion always brings change. Even the air we breathe must move and stir—else it is unfit to sustain life. This fact makes it clear that storms and hurricanes are essential. Society and civilizations do not and cannot remain stationary. Great changes and upheavals come. Who can say that they are not necessary? But whether necessary or not, they come. There seems to be but two unchangeables—the God of the universe and human nature. It would appear that a great world cataclysm is imminent—that unprecedented change is sure to come to every corner of the earth. The world seems destined to experience a new political, social and economic order. That evil forces and selfish motives are active in this great reshaping of human affairs cannot be denied. But those of us who survive will, I believe, in time, come to see that all will yet be well. Coming events have always cast shadows but small attention is paid them. During the late years of the last century a little book was published that seemed to picture the present. The title of this little book was "Looking Backward" and it was written by Edward Bellamy. The author died soon after the book was published. It was dated the year 2000 A.D. The author looked backward over the intervening century. It should be interesting reading now, although less than half the century is gone. Much that he reviewed has already occurred and the stage seems to be set for much more. Some startling things have happened in medicine—others may happen soon. Society and civilization are influenced largely by economics. It would be well, I think, for more of us to follow Mr. Babson in his economic discussions. You might hear him say that "when those who produce all have nothing and those who produce nothing have all" the political and social structure is bound to fall.

Russia was the first great nation to demonstrate this truth. Germany was next. I wonder if England and the United States are now in line? The civilization of China is very old—she alone, it seems, has refused to join the machine parade. "Grapes of Wrath" portrays in a brutal and shocking way the results of "tractoring the people off the farms." Look and listen, there is danger ahead.

* * * *

This writer has learned to accept with complacency the events of life, but the loss of friends by death or otherwise is felt most keenly. I have made frequent visits to the bedside of a very dear friend during recent weeks. And I am pained to think that he may never be able to fill his place in life again. I saw him only a few hours ago and I am very sad. I refer to Dr. C. B. McCown, of Aberdeen. I have never known a more perfect gentleman than he. He is gentle, courageous, honest and fair. He is a splendid physician—one who is far better qualified for his work than the majority of his fellow doctors. Yet he is so modest and self-effacing that he is seldom given credit that he deserves—even by doctors with whom he comes in contact. It is possible that by the time this communication is read the thread of life may have snapped. How I delight to pay tribute to whom tribute is due.

* * * *

Less than a month will elapse until we are due to meet in Biloxi. Much may transpire in this month that will affect the world, but I hope to meet many of my readers down there. Let us ALL try to go—it will be so fine to meet again and then there is so much that many of us need to know that may be heard in the papers and discussions that will be presented. It is probable that we may never have another opportunity to hear the world famous Dr. Rudolph Matas again. Not that he is so very old, but his time is so fully engaged that it will be a long time before we might hope to have him with us again.

—G. S. B.

News and Comments

Plans are on foot to have a bowling tournament during the next meeting of the American Medical Association. It is hoped that teams can be formed representing various states. Physicians who are interested in bowling should contact Dr. Lewis W. Bremerman, 1709 West 8th Street, Los Angeles, California.

Dr. Benson Blake Martin, Sr., 64, died at the Baptist Hospital at New Orleans, March 9, following a major operation. Dr. Martin was a native of Vicksburg. He was a graduate of Tulane University and had practiced at his home city, Vicksburg, for about thirty years. He was superintendent of the Vicksburg Infirmary, which he helped found. Survivors are his wife, his mother, a son, Dr. B. B. Martin, Jr., and a daughter.

Dr. Samuel D. Robinson, 62, prominent physician of Clarksdale for 26 years, died at the Clarksdale Hospital on Dec. 26, 1940, following a heart attack. Dr. Robinson was a graduate of Mississippi State College and of the medical school at Memphis. He was a member of the Clarksdale and Six Counties Medical Society and the Coahoma County Medical Society, a member of the Baptist Church and Lions Club of Clarksdale. Dr. Robinson was medical examiner of the local draft board and served in a similar capacity during the World War I.

Surviving are his wife, one son, a brother and a sister.

Dr. Frank Ferrell, of Ashland, died March 31, at the Oxford Hospital following an operation. He was 71. A graduate of the University of Mississippi and of Tulane School of Medicine, Dr. Ferrell began practicing in Benton County in 1898 and had been actively engaged in his profession ever since. He was also active in state and county politics. He served for more than 20 years as county health officer; served one term as county treasurer and was sheriff from 1936-1940. He was a Mason and a member of the Baptist Church.

The General Education Board of New York has made a grant of $168,000.00 for the further development of the Saint Philip School of

Nursing, the unit of the Medical College of Virginia separately organized for the education of negro nurses. This will add approximately seventy-four rooms to the nurses' residence; and also enlarge the library and teaching unit.

DR. Z. L. WEATHERFORD
OF RED BAY, ALA.

We are glad to present to you a likeness of our most affable friend and neighbor whose record you will read with much interest:

"Zadoc L. Weatherford, Democrat, of Red Bay, Ala.; born in Marion County, Ala., February 4, 1888; preliminary education in schools of Alabama and Mississippi; graduated from the University of Tennessee, medical department, 1914, with M.D. degree; served 18 months as interne St. Joseph Hospital, Memphis, Tenn.; served in World War as medical officer, August 27, 1917, to November 6, 1920; severely wounded, Argonne Forest, November 1, 1918, serving with Three Hundred Twenty-Sixth Infantry, Eighty-Second Division; was in various hospitals until discharged from service November 6, 1920; subdistrict medical officer, United States Veterans' Bureau, Montgomery, Ala., 1922 to 1924; general medical practice, Red Bay, Ala.; elected to state senate from Thirty-First Senatorial District, 1938; resigned state senate, November 8, 1940; elected to the seventy-sixth Congress on November 5, 1940, to fill unexpired term of the late Speaker William B. Bankhead, from Seventh Alabama District; member of state, county, and national medical associations; president, Bank of Red Bay; member Missionary Baptist Church; Thirty-Second Degree Mason; married to Miss Ollie Barnes, of Red Bay, Ala., June 30, 1916; no children."

HOLDS RECORD AS FIRST TO REGISTER AT MID-SOUTH POSTGRADUATE ASSEMBLY

Dr. Nease was graduated from the University of Tennessee Medical Department in 1915. He is a general practitioner, but if asked as to his specialty, he always answers, "obstetrics," as he enjoys this branch of the work more than any other and at the present has over forty-three hundred births to his credit! Newport, Tennessee, where he has always practiced, is about five hundred miles from Memphis. He is very proud to be a citizen of Newport and is now serving his fifth term as mayor of the town.

Dr. Nease is interested in citizenship, entering into the pleasures, joys, and sympathies of his people. His medical advice no doubt aids the people socially and economically. We thank him for this splendid account of his medical stewardship.

"The first time I attended the sessions of the Mid-South Postgraduate Medical Assembly was in 1915, when it was called the Tri-State Medical Society. I have missed two meetings since that time while I was in France during the World War.

"I consider the Mid-South Postgraduate Medical Assembly the best meeting I attend (and I might add that when people inquire as to my hobby, I always tell them 'attending medical meetings'), because the general practitioner really has a chance to learn something at these sessions. And also, I would like to say that I consider the Peabody Hotel in Memphis one of the best places in which to hold a medical meeting. I am unable to say how many times I have been the first to register; however, it has been a great number. I want to recommend the Mid-South Postgraduate Medical Assembly to all doctors of the South for the good work it is doing, and let me assure you that I expect to be present every year, so long as I shall live!"

SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of dextri-maltose may safely be added to the formula and the Casec gradually eliminated. Three to six teaspoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Ind.

"WHAT CAN THE PHYSICIAN DO TO ASSIST THE WOMEN'S FIELD ARMY FOR THE CONTROL OF CANCER?

The Women's Field Army was five years ago last July. It is the result of the physicians cry, "What can we do about cancer? The majority of patients come to us too late to be cured."

The American Society for the Control of Cancer, realizing that something should be done, invited a group of prominent women to meet with them and the Women's Field Army was organized. To date it is organized in forty-six states and the District of Columbia, and is endorsed by the American Medical Association and the College of Physicians and Surgeons.

Today in a world ravaged by wars of destruction and death the women of America are resolved to carry on a war against cancer. For generations men and women have secretly feared this disease. To women particularly cancer has seemed a thing of horror. It is fine and encouraging then, that those who have feared this disease most are determined to continue their leadership in the fight to control cancer. Though all humanitarians must respond to the appeals for help abroad, the lives of Americans remain sacred and precious. The first duty before the war was the protection of the health of our nation. The duty is still first and will remain so after the war is ended. Realizing this, women in nearly every state are building an organization, building slowly for the long fight, building carefully and permanently, confident that they can bring their message of hope to the hundreds of thousands who can and must be saved.

"Early Cancer Is Curable. Fight It With Knowledge"—this is the slogan of the Women's Field Army Against Cancer, the volunteer educational organization that is being built throughout the country, under the auspices of the American Society for the Control of Cancer. Its goal is to save lives from cancer by replacing blind fear with knowledge and by showing men and women what they can do as individuals and as part of an organized movement to control this disease.

Every man and woman is urged to go to his or her family physician once a year for a thorough physical examination. Some physicians do not like to make these examinations. It is known that patients have been turned away—told that they look 100% perfect, to go home and not worry about their health. How can any physician conscientiously refuse to examine a patient when she comes to him for that purpose? How can he know but that patient may be suffering from a beginning carcinoma of the cervix that should have the proper treatment at once?

If the physician is not prepared to make the required examination then he should send the patient to some one that can.

In this day of specialists the general practitioner often overlooks what might be found in a complete physical examination. Women are realizing the necessity of these annual examinations. Every physician should therefore have a nurse or an office assistant who can prepare patients for the examination and assist him. This is what the Woman's Field Army is asking of the physicians of Mississippi: to take the trouble of giving every woman a physical examination when she asks for it, as she realizes the importance of watching out for the danger signals of cancer and will seek help and treatment earlier than in the past. Let us not fail her.

ONE OUT OF FOUR IN DRAFT UNFIT; YALE PUBLIC HEALTH EXPERT OFFERS PROGRAM

What does it mean to the nation that one out of every four men called by the draft board is rejected as physically unfit? That some states do not have enough doctors or facilities to make thorough examinations? Telling what the nation must do to improve its health, Dr. C. E. A. Winslow, Yale's world-famous professor of public health, writes in McCall's for April:

"One out of four labeled unfit to fight! Just what do these figures tell us about the health of the American people?

"There are medical men in high administrative office—and still more among the voluntary advisors of governmental agencies—who are impatient with any precautions for even long-range military efficiency and have even less regard for civilian health and welfare. They demand the maximum number of men in uniform in the minimum time. This is hysteria, not sound defense policy. The selective draft must do more than produce men. It must produce men who are fit to fight.

Syphilis Decreasing

"In two important respects we are doing a better job of this than we did in 1917-18. With regard to syphilis and mental disease, we have profited by our past experience and have created substantially better medical machinery than we had two decades ago. The venereal diseases always have ranked above war casualties as causes of non-effectiveness in armies. Today, all draftees are routinely given a Wassermann or other equivalent blood test for syphilis, the United States Public Health Service providing local laboratory facilities and personnel. In further contrast to the procedure of 1917, all draftees with either syphilis or gonorrhea are not being called into service now. So far as protection of the armed forces is concerned, this procedure seems complete and adequate. Furthermore, in many states the results of these blood tests have revealed encouraging progress in the control of syphilis. In many areas the proportion of positive Wassermann tests is running under 1 per cent.

"We are now exempting not only obvious cases of mental diseases, but also potential emotional misfits. For mechanized war involves severe emotional stresses. Three out of seven of the men discharged for disability from the American Army in 1939, were suffering from mental diseases. The major causes of death in our army that year were motor vehicle accidents first, suicides second. The Veterans Administration reports that since 1926, nervous and mental cases have cost the Federal Government nearly one billion dollars.

"The Army has provided—at least in theory—for the presence of a minimum of one psychiatrist on each induction board. But in certain corps areas, where local psychiatric talent is rare, even the minimum requirement has not been met. The gap could not be filled from the regular Army Medical Corps, which in normal times has only a score of qualified psychiatrists. Even where psychiatrists are available, the requirement that each must examine fifty individuals a day limits their value. This allows 10-15 minutes per man, a fanatically short period, permitting the detection of only the most obvious maladjustments. A particularly valuable supplement to the routine procedure has been developed in Connecticut. Here, the names of all men placed in class A-1 by the local draft boards are checked with various hospitals, police, educational and social service files by the State Department of Health to find evidence of any emotional problems in the previous life of the draftee. The evidence thus obtained is submitted to Army authorities. This is an excellent example of the way in which local health agencies may round out and strengthen the Army's routine policy.

"The draft examination for tuberculosis is far from adequate. The experience of recent years had made it abundantly clear that there is only one way of detecting incipient tuberculosis—by x-ray pictures of the lungs. No clinical examination, however careful, is conclusive without the use of the x-ray. Yet this essential diagnostic agent is not required by the Selective Service Regulations and many local boards ignore it. Fortunately, in eighteen states and the District of Columbia local health administrations have stepped into the breach and have provided the local boards with the necessary facilities for x-raying all draftees before they are inducted. Yet Kansas is right now planning to discontinue this essential precaution; and in North Dakota and Wyoming, while the x-ray is taken, it is not read until after induction, so that positive cases already in the Army must then be discharged for disability—which places an unwarranted burden on the Federal Treasury for their future care. The other 30 states, in the absence of a national directive policy, have no provisions for routine x-raying by the local draft boards. The thorough dental examination every draftee receives, in contrast with this lack of routine x-rays, suggests that it is more important for the soldier to be able to bite than to breathe.

"One of the most irksome problems springs from the fact that one man out of eight passed by his local board's doctor has been rejected by the Army's physicians.

"Despite the great advances in American medicine since World War I, serious deficiencies continue to exist. By July 1 some 250,000 young men will have been rejected as physically unfit for military service. What is to happen to them? Regardless of their military value, they cannot be ignored, for their fate must be of grave concern to us all. Those with communicable diseases return to their communities to infect their neighbors. The others, left uncared for, will gradually sap the strength of our nation.

WE HAVE NO PLAN

"If, on the other hand, the revelations of the draft are taken as a stimulus to action, what an opportunity for progress these examinations present! Defective teeth and inadequate vision can be corrected. Malnutrition can be remedied. Minor mental deviations can be adjusted, emotional balance restored. Cases of syphilis and tuberculosis can be placed under treatment. A very large proportion of this quarter of a million young men can be restored to health and efficiency. No such constructive program for such rehabilitation of rejected draftees was developed in 1917-18; and none is yet on the horizon in 1941.

"In syphilis and tuberculosis, local health departments in the more advanced states have initiated limited programs of this kind. Cases of those diseases detected in the draft are actually reported to the civilian health authorities and provided with the clinic or sanatorium care they need. But throughout the United States as a whole, facilities for the care of venereal diseases are just about half those required for adequacy and many communities (often adjacent to defense areas) have scarcely a skeleton organization for syphilis control.

"The selective draft offers an opportunity for phenomenal advance toward the goal of national health. We have public health and medical resources in many of our communities which, if properly co-ordinated, would be adequate for the task in hand and we can establish such resources in other areas if we so decide. We have the power to plan and the stimulus of crisis which should act as a curb on selfish vested interests. We have at Washington a Federal 'Coordinator of all health, medical, welfare, nutrition, recreation and other related fields of activity affecting the national defense.' In co-operation with the Advisory Commission to the Council of National Defense, he is charged with formulating and executing 'plans, policies, and programs designed to assure the provision of adequate services of this character to the nation during the national defense emergency.' If we so desire, the defects in draft procedure can be perfected and this procedure can be made the basis for a national health program which will maintain the strength of our nation long after the present emergency has been forgotten."

GIVE ME THE MAN

Give me the man with the heart to fight,
When they deem him down, if his cause is right,
The man with the wit and the will to sing
And to breast the storm with a broken wing.

Give me the man with the soul to stand
With his head erect and a calm command
In his flashing eyes, when the call rings clear,
The man with a mind that defies all fear.

Give me the man with the heart of a child,
Who trusts with a faith that is undefiled,
The man with the tenderness, goodness and grace
That glorifies woman, to shine in his face.

Give me the man with the eyes of the seer,
The zeal of the prophet, the pride of the peer,
The plod of the peasant, a clown and a king,
The mosaic man, made of 'most everything.

Give me the man with the dew of the dawn,
The glow of the twilight when sunlight is gone.
The flush of the spring, the calm at the close
Of the dear dying year with its storms and its snows,

The warmth of the summer, the autumn's cool breath,
The rapture of life and the wonder of death.
Give me the man that is cosmos and clod,
A brother to me and a brother to God.

DAVID E. GUYTON.

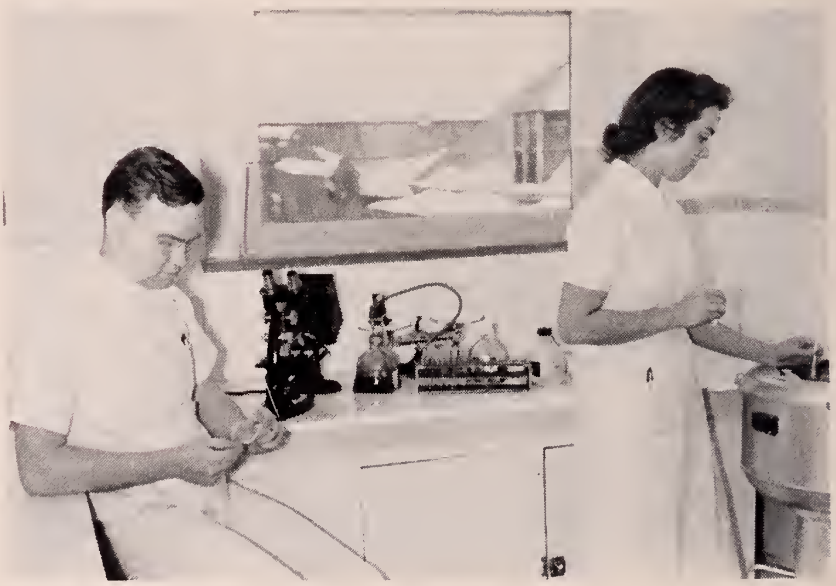
Blue Mountain, Mississippi.

Preliminary Report on the Blood Bank at St. Joseph Hospital

Dr. Victor C. Cefalu

Sterilizing Equipment

Obtaining Blood



Personnel and Equipment in Blood Bank at St. Joseph Hospital

It is usually thought that a system of blood storage, usually called a blood bank, is practical only in a large hospital. However, with the increasing use of blood transfusions and plasma or blood serum injections, many of the medium-sized hospitals now use these measures more often than large hospitals, supporting blood banks, did formerly. With an average of about 70 transfusions per month being given at St. Joseph Hospital, it was decided that the establishment of a Blood Bank was indicated. With it, blood is available within a few minutes; vital hours are often lost in securing and typing suitable donors. In addition, from excess blood, which is nearing its age limit for use in transfusions, plasma is pooled and made available for general use in the numerous conditions in which it is indicated, such as burns, shocks, etc.

A large, constant-temperature refrigerator is used, for storage in conjunction with two safety devices. One of these records graphically register the temperature within the box from hour to hour and day to day, so that the temperature at any given time is easily seen. The second is an automatic alarm which sounds whenever the temperature deviates beyond the desired limits. As near as possible, a temperature of 4°C. is maintained allowing a 2 degree variation in each direction. In order to introduce as few variable elements as possible, drawn blood is cooled to the desired temperature in a separate, small refrigerator. The temperature recording apparatus is run by clock work, the buzzer alarm by batteries, in order that both be entirely independent of the electrical system of the refrigerator. An autoclave, a centrifuge, a microscope, a shaking apparatus, a source of live steam, and viewing box complete the essential equipment, although for auxiliary procedures a triple distilling apparatus and an electrical dry sterilizer are at hand.

Methods proposed for collecting and preserving blood are numerous. It was decided that a closed system, in which the blood does not come into contact with the air, offers less chance for contamination and collular degeneration. The apparatus supplied by the Cutter Laboratories offers this advantage, plus simplicity, and familiarity on the part of the doctors using it, and has been adopted by us. We are using plain sodium citrate, in an ultimate concentration of .2% as standard anticoagulant, but hope in time to improve upon this, principally to lengthen the keeping qualities of blood. Rubber tubing is a frequent source of reactions. That used is placed in a weak solution of sodium carbonate, washed, blown through by live steam and carefully inspected before a strong light for imperfections or adherent dirt. It is then washed in pyrogen free triple distilled water before sterilization.

A careful record of donors, recipients, reactions, etc., is kept. All patients to be subjected to major surgery, or in whom there is a probable future need for transfusion, are typed upon admission, so that there will be no delay if emergency arises. When a patient requires a transfusion, blood of proper type is furnished after being rechecked by cross matching. The patient need only to submit a donor to the bank within 24 hours. A careful history of the donor is taken, particularly in regard to lues, malaria, allergic manifestations, and infections. This donor's blood is withdrawn regardless of type, is taken by the interne on service at a time convenient to both parties. Over a period of time the number of different blood types of donors equalizes with those of recipients. The blood is typed and a Kahn run. The percentage of positive Kahns in healthy, white people is so small as to cause only a negligible waste of blood. After typing the blood is labelled and stored. A small test tube held in an attached pouch and containing some blood taken at the time of bleeding, is used in cross matching, etc., so that the bulk of the blood need not be disturbed. In securing plasma the material from as many different bloods as possible is pooled to secure neutralization of any undesirable properties a single plasma may have.

Summarizing: Blood storage "banks" offer a means of saving vital time in transfusions, eliminating the work of typing numerous donors, saves widespread appeals for donors when friends or relatives are not immediately at hand, supplies a source of plasma, and costs the patient no more.

TO THE PHYSICIANS OF MISSISSIPPI

The Mississippi State Pediatric Society takes pleasure in extending you a cordial invitation to attend its meeting to be held on Monday afternoon and evening, May 12, the day before the Mississippi State Medical Association, at the Buena Vista Hotel, Biloxi, Mississippi.

The tentative program is as follows: The afternoon will be devoted to round table discussions beginning at 2 P.M.

1. Immunizations in Contagious Diseases—Chairman, Dr. R. E. Wilson; assistants, Dr. Byron Alexander, Dr. E. W. Bulley, Dr. Harvey F. Garrison, Jr.
2. The Newborn Period, Asphyxia, and Infant Feeding—Chairman, Dr. Harvey F. Garrison; assistants, Dr. Lamar Arrington, Dr. Guy Jarratt, Dr. Guy Verner.
3. Sulfanilamide and the Allied Drugs in Pediatrics—Chairman, Dr. N. C. Womack; assistants, Dr. Van C. Temple, Dr. Charles Ward, Dr. F. G. Riley, Dr. C. E. Roach.

The presentation by the members of the round table will be limited to forty-five minutes total time; then fifteen minutes will be allowed for questions from the floor pertaining to the subject presented.

There will be a refreshment hour from 5:30 to 6:00.

We have been most fortunate in securing Dr. George Lyon to be the guest speaker at the banquet on Monday night. Many of you will remember that Dr. Lyon toured the state of Mississippi and gave postgraduate lectures on pediatrics for the Commonwealth Fund in 1938. He is a practical pediatrician with a wonderful teaching ability. His subject is to be "Sulfanilylguanidine in the Treatment of Bacillary Dysentery." I feel that this subject will be of interest to all general practitioners and pediatricians alike.

I hope you will take advantage of the opportunity to attend this meeting in its entirety.

Sincerely yours,

Harvey F. Garrison, Jr.
President, Mississippi State
Pediatric Society.

Mississippi State Medical Association

Organized 1867

Next Meeting: May, 1941, Biloxi

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Hygiene and Public Health—Paul T. Haney, Laurel
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E. E. N. and T.—D. W. Hamrick, Corinth

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. R. Brumfield, Gloster	Anderson Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	W. E. Noblin, Sr., Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omi July and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	J. A. Slack, Friars Point	Guy R. Post, Clarksdale	1st Wed. March and Sec. Wed. Nov
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	C. H. McCall, Gulfport	D. L. Hollis, Biloxi	
Delta Medical	H. A. Gamble, Greenville	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. A. Kirk, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
issa-Shar-Warren	Walter E. Johnston, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley,	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	H. L. Scales, Jr., Starkville	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E. M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr., Hattiesburg	3rd Tues., Mch., June, Sept., Dec.
Sunflower		H B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec
Webster	E. T. Arnold, Bellefontaine	H K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	R. J. Field, Centerville	
Winona District		S B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Eye—S. S. McNair, Jackson.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EAR, NOSE AND THROAT

LOCAL USE OF SULFANILAMIDE COMPOUNDS IN THE EYE, by Jack S. S. Guyton, M.D., Baltimore, Maryland.

This paper which represents the best of the most recent thought on the subject of sulfanilamide in the eye is divided into three sections: the first being the summary of the literature; the second, experimental work with rabbits; and the third on clinical observations with 17 patients treated with various sulfanilamide compounds. Dr. Guyton's experience showed him that the use of sulfanilamide in ointment form was the best way to maintain an even high concentration of the drug within the conjunctival sac without too frequent instillations. He uses a 5% sulfanilamide ointment, and found it to exert considerable beneficial results.

Dr. Jack Guyton, son of Dr. Billy Guyton, of Oxford, Miss., is to be commended for this very excellent report in one of the two best national eye journals. The paper shows not only extreme care in experimental work, but also accurate observation of clinical patients, and, most admirable of all, no too-exaggerated claims are put forward.

SULFANILAMIDE IN OTITIS MEDIA IN CHILDREN, by E. B. Bilchick, M.D., and G. H. O'Kane, M.D., New York.

The essayists present statistics on 55 cases of otitis media treated with sulfanilamide as against 48 cases treated without it. Other treatment such as paracentesis, etc., that was indicated was done regardless of whether test or control case.

Their report seems to indicate that the number of necessary mastoidectomies will not be reduced by the administration of sulfanilamide but that the duration of the otitic discharge will be markedly decreased—by about one-half. In some of the cases, the discharge ceased rapidly when the drug was started.

COMMENT

This report is quite at variance with that of G. E. Fisher in the Journal of the American Medical Association, 112:2271 where such brilliant success with sulfanilamide in obviating the necessity for mastoidectomy is presented, and would seem to the reviewer to be a much more intelligent use of the drug.

Most authorities are in favor of the use of sulfanilamide in middle ear disease but some feel that it has led to an increased complication. A review of the literature reveals the fact that a number of observers believe that sulfanilamide will mask or delay the familiar symptoms of mastoiditis. They feel inclined to avoid using it except in severe complications. If it is given in uncomplicated otitis media, it must be administered before suppuration has taken place. One should be cautioned against the indiscriminate use of the drugs in the middle ear diseases and warned that when the drug is used signs of complication must be watched for very carefully, remembering that these may be at least partially concealed.

PROSTIGMIN IN OTOLOGY, by J. Coleman Scal, M.D., New York.

The study of a series of 40 otological cases is presented using prostigmin injection and also, in some cases, prostigmin bromide by mouth. The cases were not selected but were just chosen at random regardless of the type of pathology. It is easily apparent from looking over the results reported that many cases, particularly those with acute pathology in the middle ear, were not benefited at all.

Prostigmin is a sympathetic compound resembling physostigmine, and is and possesses marked vagotonic properties. Several theories have been propounded regarding the rationale of its use in auditory disturbances. Some authorities believe the therapeutic effect is produced by stimulation of the muscles of the ear but the essayist believed the therapeutic efficiency may depend on increased circulation locally in the ear. It has been demonstrated experimentally that prostigmin has the effect of a peripheral vasodilator and it is hoped that this may help cases of otosclerosis.

Dr. Scal uses ten injections, although some of his patients did not receive that many. He states he will publish the end results after sometime has elapsed and this is in nature a preliminary report. All of his patients of the Méniere's symptom complex were improved and slightly less than half of those suffering with tinnitis orium were afforded definite relief.

Comment

In our experience we have used the drug more frequently and for a longer period of time in selected cases but do not consider it indicated in conditions such as chronic discharge of the ears with loss of hearing. Instead it is used for cases of tinnitis and for those afflicted with loss of hearing. In many of our cases. the tinnitis has been improved and in two cases the loss of hearing has been improved considerably. Deafness is such a problem that we are always glad to have some help on it even though only a few cases may be benefited; and, for that reason, it is our intention to continue using this drug, and to hope that it will help more of our cases.

The Treatment of Acute Nasal Accessory Sinus Disease. A. C. Furstenberg discussed this subject at a postgraduate course on otolaryngology at the University Hospital at Ann Arbor in April, 1939.

His lecture stars by asking, "How do you treat acute infection of the nasal accessory sinuses?" He states the question arises from the mass of confusion regarding the problem: firstly, that there is little unanimity of opinion among the members of our profession; secondly, the treatments advocated today are changed tomorrow; thirdly, the proponents of specific therapeutic measures do not always practice what they recommend; and finally, there is an appalling lack of sustained conviction on the subject of sinus disease in general.

He adopts the conservative idea, stating that about thirty years ago Canfield opposed incisively the use of any operative procedure in acute inflammatory diseases of the nasal accessory sinuses, and that they had not discovered any good reason for changing this practice. He quotes the dictum "Don't do bone work in the presence of an acute infection of the sinuses." He states that every effort is made to avoid traumatizing the sensitive and acutely inflamed mucous membranes. He not only condemns the use of irritating solutions as silver salts, colloidal preparations, mercurochrome, etc., but even condemns the use of cotton or gauze pampons, any chemical agent which may irritate the membrane, and mechanical methods such as suction. He states that their treatment embraces only those orthodox principles which are more or less applicable in all infections, notably rest, promotion of drainage, relief of pain, hydration, and nutritional support for the patient. He uses opiates quite freely. Heat or cold may be applied and occasionally exert a beneficial effect but the author is doubtful of their value. Unmedicated steam inhalations are frequently employed and he uses sprays or drops of 3% solution of ephedrine sulphate in normal saline. No other measures are used in local treatment.

He gives his reasons for adopting these methods. He states that during the past twenty-five years many complications of acute nasal accessory sinus disease have come to their attention, mentioning some of the more serious. At first these experiences did not cause any concern but were regarded as a minor run of complications. Later a review and careful inquiry into the situation revealed an appalling large group of such cases. For example, out of 58 cases of osteomyelitis of the skull, 42 had a history of some previous surgical attack upon an acute nasal accessory sinus infection or an acute exacerbation of a chronic one; their records revealed that many cases of orbital cellulitis followed operations on the ethmoidal labyrinth and there appeared an amazing number of blood stream infections in patients who had been treated surgically for acute inflammatory diseases of the sinuses. The fact that was most amazing to him was that, without exception, these cases originated elsewhere. A careful review of their own cases revealed that their record did not show any serious complication of any acute accessory sinus disease. To be certain, they followed up 300 cases of acute nasal accessory sinus disease in which each patient was subjected to a careful history, a clinical examination, and a radiographic study. All of these patients were hospitalized and treated as above. No surgical measure, not even lavage of the antrum through the normal ostium, was permitted. A follow-up of these cases from six months to two years following their discharge revealed that 296 were asymptomatic, apparently in perfect health and clinically and radiographically free from any evidence of chronic nasal accessory sinus disease. The remaining four cases presented unmistakable evidence of chronic maxillary sinusitis. Twenty-six of the group had experienced one or more episodes of sinus disease following the attack which first brought them in this series of cases, 12 of whom had been treated by antrum puncture and lavage. The four cases of chronic maxillary sinusitis were among the 12 who had been treated surgically elsewhere, during an attack of acute nasal accessory sinus disease subsequent to their experience in the University Health Service.

Furstenberg points out that he does not take the position of rigidly adhering to any stereotyped form of treatment and recognizes the value of "antrum lavage in some cases of subacute maxillary sinusitis." He defines the term subacute as referring to those sinuses that continue to drain a thick purulent discharge for a period of from three to six weeks following the subsidence of the acute fulminating infection.

He quotes some studies being made by Nungester on the effects of mucin on the virulence of pathogenic bacteria. These studies indicate that mucin interferes with the bacterial phagocytic properties of the cells. Other studies have revealed that the use of argyrol and mercurochrome, etc., the use of tampons, even a "mere needle prick" stimulated the mucous glands. He observed that "any kind of irritant, chemical or mechanical, excites the secretion of mucin, the quantity of which is in direct proportion to the intensity of the stimulating factor." Other studies indicated that physiological salt solution irrigated through the nasal cavity is a potent factor in dispelling the mucin.

In conclusion, he reviewed the experience of the University Health Service with acute naso-accessory sinus disease, stating that "a critical analysis of 300 consecutive cases of acute sinusitis would seem to indicate that surgical measures, even of a conservative measure, are rarely indicated."

(Editor's note: In considering this study it must be noted that this series of 300 cases were treated under ideal conditions, where time and money meant nothing. The patients were confined to the University Hospital. Every facility was provided at no expense to the patient. Furthermore, the patients' time meant nothing in that they could remain in the hospital for any required period of time without it affecting their vocational status. Private practice does not afford such ideal conditions. Again Furstenberg has drawn a nice distinction in differentiating acute and subacute cases. Such fine distinctions cannot always be made.

There can be no doubt, however, of the value of the conservative method of treatment, and surgical procedures during acute sinus infections are justly condemned).

—E. H. J.

The Use of Nicotinic Acid and Thiamine Chloride in the Treatment of Meniere's Syndrome.

Of late there has been considerable interest manifested in Méniere's syndrome; and in the March, 1940, number of the Medical Clinics of North America, Harris and Moore present a most excellent review of the subject.

They call attention to the conflicting views as to etiology, pathology, diagnosis, and treatment which is manifested in the confusion of names such as "Méniere's syndrome." "Méniere's disease," and "Méniere's symptom complex." Diagnosis—the diagnosis is not difficult if certain characteristics and symptoms are kept in mind:

1. Sudden onset of attacks of rotational vertigo.
2. Deafness of the perceptive type, usually more marked in one ear and always progressive.
3. Tinnitis which is more marked in the ear with the greatest hearing loss.
4. Nausea and vomiting usually present, depending on the severity of the attack.
5. The attacks come at irregular intervals and re-occur with increasing frequency and severity.
6. Aside from the tinnitis and deafness, the patient is perfectly well between attacks.

ETIOLOGY: The authors classify the etiologic factors as follows:

1. General systemic conditions.
2. Aural conditions causing vertigo.
3. Allergy.
4. Idiopathic causes.

The great majority of true Méniere's syndromes arise from idiopathic causes.

PATHOLOGY: Our knowledge of this disease rests mainly on clinical observation. In 1861, Méniere first described this syndrome and included with his paper an autopsy report. This particular case had a hemorrhage into the labyrinth, and as a result, generations of medical students have been taught that these attacks were due to hemorrhage of the labyrinth. This would seem quite erroneous as a study of Méniere's syndrome makes it seem impossible that very many of these patients suffer with intra-labyrinthine hemorrhage.

The authors quote Crowe's study of 117 patients, localizing the lesion anatomically to one of two areas: firstly, that portion of the eighth nerve trunk where the cochlear and vestibular nerves come together and are contained in one sheath; secondly, the inner ear. Clinically, the authors localize the lesion by reproducing the attack with the caloric test and therefore conclude that the lesion is located in the labyrinth.

Myging and Dederin believe the symptoms due to faulty water metabolism giving rise to increased endolymphatic pressure. Furstenberg et al believe the symptoms due to the abnormal retention of sodium in the body. Hallpike and Cairns report the autopsy findings on two patients who died after section of the eighth nerve for relief of vertigo. They found both dilatation of the saccule and scala media with obliteration of the perilymphatic cistern and the scala vestibuli; also degenerative changes in the stria vascularis, Corti's organ and the epithelium of the macula and crista. As a result of these studies, the authors conclude the essential pathologic changes to be extreme dilatation of the endolymphatic spaces.

TREATMENT: The Furstenberg management, consisting of a low sodium, salt-free diet supplemented with large doses of ammonium chloride, was considered a rather strenuous treatment by the authors and was not too successful in their hands.

Surgical section of the vestibular nerve is obviously radical therapy and not without danger to life; furthermore, this disease is not always unilateral. As the authors studied their cases they were impressed with the patients' peculiar dietary habits. Many were "vegetarians" or "carbohydrate-addicts" with an apparent inadequate intake of proteins. They also noted the absence of teeth or dentures in many patients. They state succinctly "Merely asking a patient if he is on a regular diet is not adequate. To the average patient, a regular diet may mean anything from coffee and doughnuts to alcoholic spirits."

They also considered rather significant the association of perceptive deafness with this syndrome, the fact that the age incidence is suggestive of a degenerative process and the fact that in pellagra a high percentage of cases have rotational vertigo. These observations led them to use nicotinic acid and thiamine chloride in the treatment of this disease.

Some three years previously they had tried large doses of thiamine chloride without appreciable benefit. A few months later nicotinic acid was tried without results. Eight months previously, the authors decided to try the two together and obtained beneficial results. Of twenty patients so treated, seventeen were reported entirely free from vertigo; and in the remaining three, the vertigo was so improved that they were able to carry on their occupations. Of the twenty patients, ten were free from tinnitis; and in the remaining ten, the tinnitis was improved. In twelve of the twenty cases, there was a definite improvement of hearing (including all cases that obtained complete relief from tinnitis). Most of the patients were treated for two to three months before relief was obtained. In eight cases, improvement was noted in two weeks; and in the remaining twelve no improvement was noted until six weeks after beginning treatment. The improvement was noted to be gradual, and not a spontaneous remission of attacks.

Their treatment consisted of giving 250 mg. of nicotinic acid per day divided in five doses. The thiamine chloride is given in 10 mg. doses twice daily. They found oral administration to be as effective as the parenteral method. This treatment is supplemented with a high protein, high vitamin diet. They require their patients to eat one-half to three-fourths a pound of rare, red ground meat daily; also a half-pound of liver three times weekly; and wheat germ, raw vegetables, and raw fruit daily. The meat is ground because so many patients did not have teeth or proper fitting dentures.

The report is supplemented with three illustrative cases.

SUMMARY: The authors conclude that treatment with the nicotinic acid and thiamine chloride should not be considered a cure for all patients of Méniere's syndrome. They note their report covers only a small series during a short period of time. They further point out that this form of therapy is useful only in idiopathic group of cases. Obviously, it could not be expected to benefit the patient with blocked eustachian tubes or the rare case of intra-labyrinthine hemorrhage. They conclude that, in the selected type of case, their experience would indicate this treatment to be definitely beneficial.

—E. H. J.

EYE

LOCAL USE OF SULFANILAMIDE COMPOUNDS IN THE EYE, J. S. Guyton, M.D., Amer. Jour. of Ophthalmology, Vol. 24, p. 292, March, 1941.

Sulfanilamide and its derivatives have been used locally in the eye for the past four years. There has been considerable debate as to whether the drug used locally has any particular value unless it is given internally as well Some authors have reported good results in cases of trachoma and gonococcal conjunctivitis when it was used only locally, but I believe these authors will now admit that the drug is much more effective if given internally, and it is doubtful whether using sulfanilamide locally alone is of much benefit even in these two conditions. The author of this article used an ointment containing sulfanilamide in a colloidal suspension in eighteen cases of catarrhal conjunctivitis and his conclusions were that it did not aid in the cure of these conditions any more than did a plain soothing ointment. The author did believe that in corneal ulcers the sulfanilamide ointment did hasten a cure.

COMMENT

I think this article is well worth while because it brings home the fact to us all that there are some limitations of sulfanilamide and that the drug is more effective if administered internally in any eye condition than it is if used only locally. I am of the opinion that the drug locally along with its administration internally in some conditions is of a slight more benefit if it were used only internally.

—S. S. McN.

PEDIATRICS

CHEMOTHERAPY IN ACUTE BACILLARY DYSENTERY, George M. Lyon, M.D., F.A.A.P., Huntington, West Virginia.

Dr. Lyons had twenty-four physicians cooperating with him in the study of the effects of sulfanilylguanidine in the treatment of acute bacillary dysentery. Most of this study was carried on within a radius of seventy-five to one hundred miles of Huntington, West Virginia. It was found that the Flexner bacillus was responsible for approximately eighty per cent of the cases of bloody dysentery occurring in these areas. A majority of the patients were infants and young children. A group of twenty-three patients were selected for treatment and a similar number of twenty-three patients were selected as controls.

The drug was given in accordance with instructions proposed by Marshall. The initial dosage was 0.1 gram per kilogram of body weight and the maintenance dose was 0.05 gram per kilogram of body weight every four hours until the stools were five or less per twenty-four hours, and thereafter 0.05 gram per kilogram every eight hours for forty-eight to seventy-two hours.

The drug is a very fine white powder not very soluble in water, practically tasteless, and not at all unpleasant to take. It was given in a suspension of water or milk. Care was taken that all the dose was given, since it has a tendency to stick to the spoon or glass. In many instances it was given by gavage in a suspension of lactic acid milk or water. It was singularly free from immediate or late toxic effects. The control group received the same general treatment but none of the drug. The author's summary is as follows:

"Twenty-three patients with severe, or relatively severe, cases of acute bacillary dysentery were treated with sulfanilylguanidine, and twenty-three patients with the same disease and with cases of a similar severity were taken as untreated controls. Alternate patients were treated.

"In order that the cases be as similar in clinical character and in severity as possible, rather rigid criteria were established as a prerequisite for selection. Because of the wide variations in the clinical manifestations of this disease, it is essential that the cases be as nearly similar in their nature as possible, if reliable conclusions are to be obtained. The importance of this was emphasized.

"Of the patients not receiving sulfanilylguanidine, the clinical course with which we are so familiar generally occurred. Temperatures of 102 degrees to 105 degrees were observed during the first week with severe bloody diarrhea, nausea, vomiting, abdominal cramps, tenesmus, pro prolapsus ani; in the second week, a lower temperature, a continuation of the diarrhea which became more purulent than bloody and a loss of strength and body weight; in the third week, a tendency to enter a convalescence of varying degrees of severity and tardiness, accompanied by indigestion and loss of strength.

"Of the patients receiving sulfanilylguanidine five seemed to follow a clinical course not influenced by the drug. Of these, two had accompanying pyogenic infections which were very important. Of the other 18 patients treated with the drug it may be said that they all received marked benefit from the drug. Many of these were, indeed, most dramatic in character. In these patients to be so benefited, there was generally, within 24 to 48 hours, a rather rapid fall in the temperature and the leucocyte count, a closely paralleling general clinical improvement, a marked reduction in the number of diarrheal stools, and an equally remarkable improvement in the character thereof as to consistency and to the absence of blood, pus or mucous. This occurred in the first 24 to 72 hours after institution of the chemotherapy in all of the 18 patients being described. In the control group in only one instance was the "diarrhea checked" before the sixth day after admission and in only two more did this occur before the eighth day after admission. In four the stools continued to be abnormal in the fourth week after admission.

"There is reason to believe that sulfanilylguanidine is most efficacious in the first three or four days after onset of fever or diarrhea and that the percentage of failures may be higher when given later in the illness.

"Observations at hand lead to the assumption that sulfanilylguanidine is an effective agent for the treatment of acute bacillary dysentery. While in the dosage recommended it appears to be a safe therapeutic agent, it should be used with conservatism and conclusions drawn guardedly. Toxic effects may have been observed, but only in those patients with concomitant infections outside the intestional tract and not, indeed, with certainty then. Its use is attended with less toxic side effects than that of the related compounds. Its final place in the field of chemotherapy can be established only by appropriate clinical use and study."

COMMENT: This article should be of intense interest to the physicians of this state for the reason that it opens a new avenue of treatment for bacillary dysentery that we have not known before. In our own experience we are inclined fairly well to agree with the author in the treatment of bacillary dysentery with this drug.

The treatment to bacillary dysentery with sulfanilylguanidine is not quite so spectacular as the treatment of the pneumonias with sulfapyridine or sulfathiazole, but it looks very promising, at least in a limited degree, to revolutionize the treatment of bacillary dysentery in infants and children.

—H. F. G.

PUBLIC HEALTH

RHEUMATIC FEVER: Preventive Aspects, Herman H. Riecker, Jour. of the Mich. State Med. Soc., 40:208-211, March, 1941.

The similarity of rheumatic fever to tuberculosis in its familial incidence, its relation to poverty, its tendency to attack the young, its constant recurrences with mental or physical strain, surgical procedures, or exposure to cold, its peculiar immunological reactions, and the standard procedure in treatment have an important bearing in a consideration of the preventive aspects of the disease, the author points out. Rheumatic fever should be more frequently suspected by the physician in dealing with any indeterminate infection of childhood. Because febrile illnesses with pharyngitis are not uncommon in children, the probability of cardiac crippling may remain quite unrecognized. Early recognition of the disease, that is, at the time of the initial tachycardia and fever, is important in a disease characterized by a prolonged course and frequent cardiac crippling. Predominantly a disease of childhood and early adult life, with slightly greater incidence in girls, it ranks first as a cause of death in girls in New York City and is second to accidents among boys. Certain authorities found the disease twenty times more common among urban working classes than among those of higher means and agreed that overcrowding, bad sanitation, dietetic insufficiency and dampness are important predisposing factors. Therefore, improved housing and living conditions enter into the preventive aspects of the disease.

Protection against hemolytic streptococcus carriers is considered essential in preventing recurrences in childhood susceptible to rheumatic fever. Also, they should be guarded against respiratory infections and be provided with a diet adequate in every respect. If the rheumatic child exhibits nasal or bronchial allergic changes, a thorough study directed toward its control might be of value in limiting the susceptibility to the rheumatic process.

All in all, preventive measures take much the same form as in tuberculosis. Prolonged rest in bed, well protected from upper respiratory infections, is as essential for rheumatic fever cases as for pulmonary tuberculosis, and may be the means of preventing permanent disability.

SURGERY

POSTOPERATIVE PERFUSION OF THE BILIARY DUCTAL SYSTEM, Preliminary Report by Dean MacDonald, M.D., St. Catherine's, Ontario. Reprinted from the Canadian Medical Association Journal, 43:411-418, 1940.

This paper presents a method of perfusing the biliary tract following cholecystectomy or other surgical attack on the common duct. In the apparatus devised by the author, the common duct tube left in place is connected with an especially adapted intravenous set, and fairly large amounts of saline, solvents or antiseptics, brought to a temperature of 110 degrees to 115 degrees Fahrenheit, are perfused through the entire biliary system.

The application of heat to the interior of the biliary system and the mechanical flushing of the biliary tract is stressed. The procedure has worked well clinically in several instances in that it has removed debris and stones and has seemed to reduce infection remaining in the duct postoperatively. It was felt further by the author that it was of value in preventing future postoperative colic.

COMMENT

The idea expressed seems sound in principle and it may be that the perfusion is more physiological than if common duct T-tubes alone are used. Possibly in a small number of selected cases it would be of definite benefit, particularly in that it might tend to prevent the development of pancreatitis or to lessen the severity of infection present. However, the apparatus described is not ideal for a hospital room and would require expert and constant attention. There does not seem at present a great need for the use of a perfusion apparatus, but the principle seems worthy of thought and may be sound.

—W. H. P.

State Board of Health

Felix J. Underwood, M.D.

PUBLIC HEALTH AND NATIONAL DEFENSE AT CAMP SHELBY*

By PAUL T. ERICKSON

(Continued from March issue)

COMMUNICABLE DISEASE CONTROL ACTIVITIES

Private physicians have been apprised of the importance of reporting cases of communicable disease to the local health departments without delay. Reciprocal notification of cases and contacts by the health departments to the Army officials and by Army officials to the county health department facilitates early diagnosis, treatment, and isolation. The following form is used by the local health departments for this purpose:

CONTACT REPORT*

A Case Of......Has Occurred In..........County And The Following Epidemiological Data Are Submitted:

....	....	....	....
Identification of case	Date of onset	Identification of military Contact	Date of Contact
....		....	....
(Address of case)			
		....	....
		....	....

Signed............................
Health Officer

---

*From a special report covering Extramilitary Zone Health Activities at Camp Shelby, Sept. 15-Dec. 31, 1940.

*In case of no known military contacts report case and so state. For syphilis report contacts only of cases definitely known to be infectious.

In addition, a weekly morbidity report for each county in the state is furnished by the State Board of Health.

Influenza was the only communicable disease that showed a significant increase in the number of cases reported during the last quarter of 1940 as compared to the last quarter of 1939. Table IV gives the number of communicable disease cases for the two periods for Forrest County, the locality most likely to show an increase because of Camp Shelby. For influenza there were 1,584 cases reported for the 1940 period as compared to 567 in 1939. Increases in influenza cases, however, have been reported from all sections of the country so that the local increase may be only an expression of a nation-wide increase in incidence. Crowded conditions and the mode of living necessary for some people who have recently moved into the area might well account for the increase in the number of influenza cases as well as the increase in the number of dysentery cases. Rates have not been calculated because of the unknown magnitude of recent population fluctuations. Any increase in incidence as shown by the number of cases, it should therefore be remembered, is probably more apparent than real.

TABLE IV

Comparison of the Number of Communicable Disease Cases Reported from Civilian Population in Forrest County During The Last Quarter of 1939 and the Last Quarter of 1940

	1939	1940
Chickenpox	11	18
Diphtheria	3	2
Dysentery	15	37
Gonorrhea	144	164
Hookworm	69	65
Influenza	567	1584
Malaria	75	51
Measles	21	2
Meningococcus meningitis	0	0
Poliomyelitis	0	1
Scarlet fever	3	7
Smallpox	0	0
Streptococcic sore throat	0	0
Syphilis	110	111
Tuberculosis	2	2
Typhus fever	4	2
Whooping cough	30	11

The ordinance for food handling establishments requires examination of all food handlers for communicable disease and immunization against smallpox and typhoid fever. This accounts for the marked increase in number of typhoid fever immunizations during the last quarter of 1940 (TABLE VI). The increase in smallpox vaccinations failed to be as great indicating greater protection in this group of individuals against smallpox than against typhoid fever. The tuberculin test is also required for food handlers explaining the marked increase in the number of tuberculin tests for this period. Three times as many immunizations and immunity tests were performed in the 1940 period as during the 1939 period.

TABLE V

Communicable Diseases Reported by Army Officials for the Last Quarter of 1940

Chicken pox	1	
Mumps	4	
Gonorrheal urethritis	36*	
Possible gonorrheal urethritis	7	(diagnosis not completed)
Syphilis, primary	5*	
Possible chancre	2	(diagnosis not completed)
Syphilis, latent	1	
Influenza	(exact number not known—not epidemic)	

*See Table IX for sources of infections.

TABLE VI

Comparison of Number of Immunizations and Immunity Tests Performed During Last Quarter of 1939 and Last Quarter of 1940

	1939	1940	Per Cent Increase
Smallpox immunizations	246	402	63.4
Diphtheria immunizations	118	166	40.6
Typhoid immunizations	199	1195	500.0
Tuberculin tests	100	1615	1515.0
Schick tests	204	349	71.0
Total	867	3727	329.8

Tests for the detection of communicable diseases increased threefold. The only examinations which suffered a decline in number were cultures for diphtheria.

TABLE VII

Comparison of the Number of Laboratory Tests Performed for the Selection of Communicable Disease During the Last Quarter of 1939 and the Last Quarter of 1940

	1939	1940	Per Cent Increase
Typhoid—stool cultures	35	1105	3057.1
Typhoid—urine cultures	32	1030	3118.7
Diphtheria cultures	147	81	——
Syphilis	594	2210	272.0
Malaria	90	225	150.0
Gonorrhea	104	406	290.3
Feces for parasites	383	396	3.4
Total	1385	553	300.9

VENEREAL DISEASE CONTROL ACTIVITIES

The control of the venereal diseases in and around military concentrations is closely allied with the age-old problem of prostitution.

In Hattiesburg, as elsewhere, opinions given on how to cope with the prostitution problem have varied from the impossible to the absurd. Antiquated methods from the condonement of regulated houses of prostitution to absolute abolition have been advocated. Fortunately, from the various views proclaimed a sensible approach has been worked out toward the control of the venereal diseases, consisting of the repression of prostitution by enlisting the assistance of everyone concerned, law enforcement bodies, and the civil and military police; the finding, examination, treatment, and isolation of venereal disease cases; and provision of suitable recreations and recreational facilities for the military personnel by proper cooperation between civic organizations and military officials.

The Forrest County Health Department has compiled a register of 178 women suspected of sexual promiscuity (Table VIII). About 13 per cent were infected with syphilis and 28 per cent with gonorrhea. During the last quarter of 1940 twenty-nine were found infected with gonorrhea and seven with syphilis. The register has been compiled from the following sources:

1. Sex contacts information forms from Army contacts.
2. Food handling examinations.
3. Military and civilian police (81 arrests).
4. Information supplied by hotel managers, cabmen, civilian cases, etc.

TABLE VIII

Number of Suspected Women* Examined and Per Cent Found Infected Since August 1, 1940

Disease	Number Examined	Number Positive	Per Cent Positive
Syphilis	178	23	12.9
Gonorrhea	178	50	28.1

*White

If the number of cases of venereal disease developed by the troops at Camp Shelby from Hattiesburg can be regarded as an index of the efficacy of the venereal disease control measures carried on, indications are good. Only six cases of gonorrhea and no cases of syphilis have been acquired from exposures in Hattiesburg during October, November, and December. Nearly all of the remainder of cases developed were discovered in troops or draftees on arrival at Camp Shelby (Table IX).

TABLE IX

Cases of Venereal Disease Developed at Camp Shelby and Place of Exposure as Given by Patient

Place of Exposure	Syphilis	Gonorrhea	Total
Ohio	3	14	17
Louisiana (excluding New Orleans)	0	7	7
Hattiesburg	0	6	6
Mississippi (excluding Hattiesburg)	1	4	5
New Orleans	0	3	3
Florida	0	1	1
South Carolina	0	1	1
Unknown	2	0	2
Total	6	36	42

In Hattiesburg six infections occurred out of 419 reported exposures or 1.4 per cent of the exposures resulted in infection. Unfortunately, this figure cannot be compared with those from cities where prophylactic stations are maintained. The city of Hattiesburg with the assistance of WPA funds constructed a spacious comfort station for the use of the troops. In this station a prophylactic unit is maintained by the Army and a sex contact information form is completed on each individual exposed. For instance, in New Orleans there were seven reported exposures (four taking prophylaxis at Hattiesburg on returning from New Orleans) and three infections. If there were no more than seven exposures the infection rate would be 43 per cent of the number of exposures, an unbelievably high rate were it not based on such small figures.

TABLE X

Number of Exposures and Place of Exposure as Reported by Those Taking Venereal Disease Prophylaxis

Place of Exposure	Number of Exposures
Hattiesburg	413
Laurel	14
New Orleans	4
Gulfport	1
Meridian	2
Biloxi	1
Not stated	167
Total	602

The venereal disease problem has taxed the efforts of the health department to the limit. Contact tracing is an exceedingly time consuming job when pieces of information have to be put together in order to unravel complicated situations and insure the investigator some degree of success in finding the correct individual. Out of the 178 suspected women on the health department register, 173 have given information as to residency. Of these 88 or 51.2 per cent were non-residents, and, as such, difficult to find for examination when named as sex contacts or in case of treatment delinquency. The difference between sufficient and insufficient personnel in this kind of work spells the difference between failure and success.

CONCLUSIONS

The fact that there has been no increase in the incidence of communicable disease in the Camp Shelby extramilitary zone over the normal may be a mere coincidence. However, credit would not be unduly given if this admirable condition were attributed to increased vigilance on the part of the health departments and the splendid co-operation afforded by the camp surgeon, camp sanitation officer, and other Army officials whenever needed.

One cannot venture to say how many cases of venereal disease might have developed among the troops had not the 50 cases of gonorrhea and the 23 cases of syphilis been found and treated. Certainly, there would have been many more than six (6), the number traced to Hattiesburg as the source. The three-fold increase in immunizations and in tests for communicable disease, the two-fold increase in activities designed for the protection of food and milk, certainly must have played a part in keeping down the incidence of disease.

The increased activities in sanitation and communicable disease control have not all been at the expense of other necessary public health activities carried out by the county health departments. The maternity service and the infant and preschool hygiene activities have been pursued with normal vigor. School hygiene activities, however, suffered quite a marked decline in Forrest County.

* * * *

MISCELLANEOUS NOTES

County Health Department News Notes:

Appointment of health officers to the new Prentiss and Tippah-Benton county health departments has been announced by Dr. J. A. Milne, director of county health work in the State Board of Health. Dr. J. C. Powell, who formerly practiced as a private physician at Coldwater, was appointed to the Booneville station by the Prentiss board of supervisors at their March meeting. Dr. A. A. Aden, who left a private practice in Yazoo City for public health service, is the Tippah-Benton officer, with headquarters in Ripley. Both officers have been for the past several months associated with Dr. N. C. Knight at the Lauderdale county health department to observe and study county health administration procedures in Mississippi.

The January-February narrative report of the Tippah-Benton district announces Charles Montgomery as the sanitation supervisor for both counties; Miss Grace Ferguson as full-time public health nurse for Tippah and Miss Lena Smith for Benton. The clerk at the Ripley office is Miss Lucille Street. A clinic building being completed in Ashland will be occupied by the health department, according to the report, and a full-time clerk will be employed there.

* * * *

Among prominent visitors to the State Board of Health during the past month was Major Frank A. Frost of the Bureau of the Budget, Washington. The primary purpose of Major Frost's visit was in the interest of the Children's Bureau to survey the work being done in Mississippi relative to maternal and child health. He commended the program now in effect and pointed to the importance of continuous effort in this field and to bring about further reductions in preventable deaths and illnesses.

Other recent visitors included Dr. Eva Dodge of the regional office of the Children's Bureau, New Orleans.

County Societies

DESOTO COUNTY

The Mississippi State Medical Association meeting is just around the corner, May 13-15, at Biloxi. We confidently expect the reports of the secretaries of the societies in the Second Councilor District to be optimistic.

We dare hope that every physician in the nine counties of the district will be enrolled as a member of his local medical unit. It will increase his efficiency; he has much to gain and nothing to lose. If you know of a doctor not a member, try to get him to join his fellows.

We would like to state here that the Woman's Auxiliary is anxious to have every physician's wife a member, fee one dollar annually. These ladies are doing remarkably good work. Let us all lend a hand.

Our president, Dr. W. H. Anderson, has wrought well. A man of varied talents, he has been competent and constructive and his interest in Mississippi and Southern medicine has been widely recognized. As a physician, a citizen, medical association officer and editor, he is classed with the best.

To be successful in so many ways, Dr. Anderson has had the good fortune of the invaluable aid and council of his accomplished wife.

* * * *

There are about 70,000 cases of trachoma in the United States, the disease is caused by a virus, extremely contagious, very painful and hitherto not so amenable to treatment. The sulfanilamide treatment is not painful since the patient need only swallow the pills, and relief comes quickly; of course, it does not restore lost or impaired vision but checks the progress of the disease.

* * * *

In St. Louis the authorities are making a desperate effort to reduce the death rate and the following lines are given out with the compliments of the Richmond Heights Police Department to all motorists. The toll from unwise automobile drivers is entirely too large; read this and drive more carefully:

My Jackie

You think I'm a hard-boiled copper
Writing tickets at forty-three.
Well, perhaps I'm thinking of Jackie
And all that the lad meant to me.

How's that? Tell you about it?
Well, stranger, the boy was my son.
God, what I'd give to hear "Daddy"
Once more when the day's work is done.

The driver was just in a hurry;
He didn't intend any harm,
But the sun and the stars quit shining
When I picked up my boy's lifeless form.

Well, Mister, I'll not give you a ticket;
I don't want to "pinch" any one.
But I'd ride this motor through hell
To protect another man's son.

So the next time you feel like speeding
Or passing a boulevard stop,
Just pause and remember my Jackie,
The son of a hard-boiled cop.

How vividly Sir Frances Bacon foresaw wonders 316 years ago! In his essay on the civilization of the "New Atlantis," written in 1623, he says: "We have boats for going under water . . . flying in the ayre . . . artificial echoes reflecting the Voice many times . . . lights of all colors . . . lights, which we carry to great distances."

Here are all these things: submarines, airplanes, radio telephones, neon lights, and giant searchlights.

It sounds like him too. Mark Twain once said: "Always do right. This will gratify some people and astonish the rest."

* * * *

Haile Selassi, of Ethiopia, according to a contributed article in THE AMERICAN HEBREW for January, No. 1, is said to be the six hundred and thirteenth king in an unbroken line from King Solomon. The "black Jews," five hundred of whom are in New York with rabbis, synagogues and a cemetery all their own, are held by some to be the descendants of Menilek, son of Solomon and the Queen of Sheba. There are theories of their origin, and no theory is clearly established. The black Jews in New York are known as "Commandment Keepers." Haile Selassi is said to be the only king on earth who can claim the promises that David should never lack a man to sit upon the throne of Israel. Haile Selassi was the first ruler among the conquered nations of the world to lose his kingdom and the first to regain his scepter.

* * * *

The American Social Hygiene Association, the Federal Government, and other agencies are active in bringing before every one the active harm and loathsomeness of venereal diseases.

For soldiers and sailors and industrial workers do not become infected with syphilis and gonorrhea while in camp or on board ship, or at their machines and work benches. They get these diseases in the communities from which they come and those which they visit while off duty. We are challenged to keep our communities clean and free from all forms of vice.

No foes are more powerful, clever and tricky than the spirochete and gonococcus. To fight them is an essential part of national defense and all good citizens.

The physician examiner for the Selective Board has a fine opportunity to advise the selectee whether he is qualified or not to give him suitable instructions for more attention to his physical well-being. This we have tried to do in our county.

* * * *

Many of our doctors are disciples of Sir Izaak Walton, who was famous for his fishing, once sagely wrote: "Look to your health, praise God and value it next to a good conscience."

* * * *

The prevention of deaths from automobile accidents is a problem which has taxed the ingenuity of federal, state, and local authorities. Much has been done, and what has been accomplished has been of some avail. The wide posting of danger and warning signs, the elimination of grade crossings, educational programs—all have been helpful. A great deal of success has been attained in protecting children from accidents. Yet, much remains to be accomplished. The mania for speed can be overcome by education and rigid enforcement of the laws. The motor car manufacturer is turning to greater emphasis on safety rather than speed. The regular inspection of motor cars and the licensing of drivers, which is becoming more widespread throughout the country, may lead to a downward trend in the number of deaths and accidents from motor-vehicles.

See to it that you drive more carefully.

* * * *

Hippocrates, Father of Modern Medicine, first emancipated medicine from superstition. In 490 B.C. he also wrote the Hippocratic Oath, ethical guide of physicians for 2,500 years. One sentence which is widely quoted and which should be observed by all good and true physicians is, "Whatsoever in my practice I shall see or hear amid the lives of men (and women) I will not divulge to any one else at any time."

* * * *

O, East is East and West is West,
And never the twain shall meet
Till Earth and Sky stand presently at
God's great Judgment Seat;
But there is neither East nor West,
Border nor Breed nor Birth,
When two strong men stand face to
face, though they come from the
Ends of the earth.
—Kipling.

* * * *

The process of examining selectees is still going on apace. The physicians in this section have been kind and sympathetic. In this, as in my work, practice makes for proficiency and thoroughness; we are of more understanding. The induction officer sometimes sees things a bit differently; he seems to take a particular distaste to flat feet, however, he ought to know what kind of feet a soldier should have. We want to take this opportunity of commending our examiners in this county, Drs. C. W. Emerson, W. A. Vandergrift and H. M. Wadsworth. They are competent and painstaking, anxious to make good on the job.

* * * *

They may not be able to pronounce—or remember—the name of the stream, but motorists appreciate the recently constructed bridge over Quohquinnespessakessananaghok brook near Amherst, New Hampsnire.

* * * *

A doctor had an urgent telephone call from a man, saying that his small son had swallowed a fountain pen.

"All right? I'll come at once," replied the doctor. "What are you doing in the mean time?"

"Using a pencil," was the answer.

* * * *

If I succeed today in doing a thing that is hard, the same thing will be easier for me tomorrow; if I yield to a difficulty today, it will be all the harder tomorrow to resist.—G. S. Merriman.

R. 4, Memphis, Tenn. L. L. Minor,
March 19, 1941. Editor.

OLE MISS MEDICAL SCHOOL

The University of Mississippi Medical School recently received a three-year grant totaling $7,500.00 for the Rowland Medical Library. The grant is part of the University Library Fund created by grants from the General Education Board, Rockefeller Institution, and matched by the University.

The plans of the Rowland Medical Library are to use the first year's grant to complete the files of the scientific periodicals now carried by the library. In most cases the files of journals will be completed back to 1920, but in special cases the files will be completed back to volume one of those respective periodicals. The program will remedy gaps which now exist in the files of important journals.

It is also proposed to use the fund to purchase additional periodicals, monographs and special texts. The current program will endeavor to establish a better balance between the several fields of medical literature now represented in the library. While some expansion of the fields is anticipated, the major effort will be to intensify the fields of literature already represented in the library.

The routine program of the library will be pursued as usual with funds from the regular budget and "The Friend of the Library," an organization sponsored by Dr. P. W. Rowland.

At present the Rowland Medical Library contains 7000 volumes of which 100 volumes comprise new monographs which have been added since the first of the year. The library carries currently 130 scientific periodicals covering the fields of scientific and clinical medicine, and associated fields.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

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NORTHEAST MISSISSIPPI THIRTEEN COUNTIES AUXILIARY

Graciously received by Mrs. Dewey McCain, the members of the Northeast Mississippi Thirteen Counties Medical Auxiliary met on March 11 in Starkville for an entertaining and enlightening program. Jonquils and hawthorne lent freshness and charm to the attractive home setting.

Dr. Stanley Hill, of Corinth, was guest doctor, bringing a paper on pre-natal care, the March objective of the organization. Dr. Hill stressed the opportunity doctors' wives have for teaching the expectant mother to consult her physician early and periodically. These visits to the doctor not only insure the mother's health and welfare, but also are an important factor in lowering infant mortality, he showed.

Presided over by Mrs. Bernard Patrick, the group pursued the previous month's objective—citizenship. A brief business session was necessary to fill the valancy left by the resignation of Mrs. Price Burdine, Jr., president, Amory. Mrs. Robert Christian, of Baldwyn, was elected to the office.

The meeting delightfully culminated in a small musicale followed by tea. Miss Helen Hensley, accompanied by Mrs. G. Villaret, sang "The Blue Danube," "Gianina Mia," and the "Indian Love Call." Miss Hensley's voice instructor, Mrs. Margaret Chapman Byers, the former opera star, was an honored guest on this occasion also.

Mrs. H. L. Scales and Mrs. H. L. Scales, Jr., assisted the hostess with serving.

WHEN CANCER IS NOT GUILTY

Condensed from Hygeia

RUSSELL S. FERGUSON

Director of Survey Committee,
N. Y. State Cancer Commission

Cancer has become America's Public Health Enemy No. 2, second only to heart disease as a cause of death. A hundred and fifty thousand people died of cancer last year.

Yet 35,000 of them need not have died at all. Cancer was not the villain, but ignorance, fear, carelessness, neglect. "Cancer" is written on many a death certificate where "suicide" would be far nearer the truth. Suicide is wholly avoidable; so, often, is cancer. Fifty per cent of cancers, when discovered and treated promptly, have an excellent chance of cure. But people either don't know or cannot bring themselves to face the facts.

As an act of elementary justice, let us put cancer on trial. Let us see whether cancer is guilty of every charge of death brought against it.

First Indictment

Bill of Particulars: In 1928 Mrs. B noticed a small lump in her breast. Her physician advised her to go at once to a nearby hospital where many such cases were treated. Before she could leave for the hospital, however, a "good friend" suggested that Mrs. B see "Dr. Blank," who could cure her without an operation. This "doctor" treated her with injections "guaranteed to cure," and for four years kept her from seeking other advice. Finally, as the disease spread, she again called her family physician, who attended her until her death a few months later.

Family Doctor: "When Mrs. B came to me, the lump in her breast was not over a half-inch in diameter. I am confident that an operation any time during the first year would have cured her."

"Good Friend" takes the stand: "When I learned that Mrs. B had cancer, I recalled the wonderful advertisements I had seen in the papers about Dr. Blank. It seemed a shame for Mrs. B to undergo an unnecessary operation, so we went to see him. He guaranteed a cure with his injections, and Mrs. B took her first treatment that day. For four years I thought she was getting along fine; then suddenly she collapsed and, unable to continue her trips to Dr. Blank, she again called in her family doctor."

Jury's Verdict: There is no evidence that cancer killed Mrs. B. She was slain by good intentions and the ignorant belief that quacks can cure. We acquit cancer, and indict superstition and quackery.

Second Indictment

Bill of Particulars: Mr. K had a pigmented mole on his thigh, which he decided to remove by tying a string about its base. The mole came off, but the injured tissues were stimulated to malignant growth and the cancer cells spread throughout his body. For seven months he paid no attention to symptoms. When finally he entered the hospital, his cancer was inoperable, and he died within two months.

Jury's Verdict: This is a clear case of suicide. Most moles are harmless, never giving rise to cancerous growth. But the danger of self-treatment of pigmented moles ought to be well known. There was no excuse for disregarding it.

Third Indictment

Bill of Particulars: Miss M began to pass blood in the urine at irregular intervals. She discussed this with no one, although, as the bleeding continued, she began to fear she had cancer. For three years even her family had no idea of her condition, until she collapsed and was taken to the hospital. There an inoperable cancer of the bladder was found, from which she died in a few weeks.

Family Doctor: "Other members of Miss M's family came to me regularly for examination, but Miss M, they explained, was painfully modest and the thought of an examination was agonizing to her. When I saw her for the first time, after her collapse, she told me she had noticed symptoms for three years. The disease could have been cured if detected during the first six months.

Jury's Verdict: Cancer is not guilty of this death. The responsibility rests with false modesty and fear.

Fourth Indictment

Bill of Particulars: Mr. D began to suffer from chronic indigestion and biliousness 15 years ago. Four years later he was told by his doctor that he had inflammation of the gallbladder, with gallstones, and that his gallbladder should be removed. Disregarding this advice, he suffered mildly from indigestion for 10 years and then suddenly began to lose weight and became jaundiced. An operation revealed a cancer of the gallbladder, which it was then too late to remove. He died six months afterward.

Family Doctor: "Eleven years ago Mr. D came to me with a typical history of inflammation of the gallbladder. I knew that an operation would relieve him and that otherwise he might develop cancer. I have never seen a cancer of the gallbladder which did not have a long history of inflammation of stones."

Jury's Verdict: There is no evidence here on which to indict cancer. Mr. D's death was preventable had he followed his doctor's advice.

FIFTH INDICTMENT

Bill of Particulars: Mr. J noted a small pimple on his nose which persisted for some years without increasing in size, then ulcerated and began to grow slowly. His doctor suggested that radium be applied at once. Mr. J felt that radium treatments were dangerous, however, and did nothing. Within two years the ulcer spread over the whole side of his face, finally causing death.

Family Doctor: "When I saw Mr. J the ulcer on his nose was still harmless. These ulcers are easily eradicated. but if neglected, cancer is almost sure to follow. I therefore advised its removal, assuring him that radium, properly used, would do no harm and would prevent cancer. He refused all treatment. When I was called two years later, his condition was beyond medical help."

Jury's Verdict: Cancer is not responsible for this death. Because of his own ignorance and neglect, the patient died of a disease which could have been prevented.

SIXTH INDICTMENT

Bill of Particulars: Mrs. B sustained a childbirth injury 30 years ago but neglected to have it repaired. For the past two years she suffered from intermittent bleeding, carefully concealing this fact until she was on her deathbed. The record states that Mrs. B died of cancer of the womb.

Family Doctor: "Five years after the birth of her child, I attended Mrs. B and called attention to the injury. I advised her to undergo a comparatively simple operation, knowing that neglected childbirth injuries often predispose to cancer. Mrs. B ignored my advice, and when I insisted, she refused pointblank. I did not see her again until she was dying."

Jury's Verdict: There is no evidence that cancer is guilty. Neglect and fear were accessories before the fact and are the real culprits.

UNTIL now the fight against cancer has been carried on largely by the medical profession, research foundations, and the American Society for the Control of Cancer. Unless the layman, which means you, is willing to assist, not much more can be done. It's up to you to educate yourself.

Cancers arising from long-continued chronic irritation are preventable. Here are some of the points to watch for:

"Chronic indigestion is often due to gastric ulcer or gallbladder disease. Diagnosis entails a thorough x-ray examination, and a remedy should be sought immediately. Many cancers of the gallbladder and stomach arise from these diseases.

"Abnormal lumps in the breast or elsewhere may not be cancerous, but they deserve prompt investigation, and the benefit of biopsy—microscopic examination of a small piece of tissue. The regular use of biopsy in determining the nature of suspicious growths has increased the cure rate by a full seven per cent.

"Abnormal bleeding from body cavities is a real danger sign, although it does not necessarily mean cancer. It should be investigated at once.

"Cancer of the tongue and cheek is often due to chronic irritation caused by defective or irregular teeth. This is avoidable by proper dental and oral hygiene. Any persistent sores in the month or white patches on the tongue should have prompt medical attention."

Observance of these suggestions will prevent many cancers and permit early discovery of others while they can still be cured. Whether or not you have any of these symptoms, it is always advisable to submit to regular physical examinations. Doctors are anxious to co-operate in any plan which will make early discovery of cancer possible.

In the last analysis, the reduction of our appalling cancer death rate rests squarely upon the individual. Those who align themselves with the forces of fear, ignorance and quackery will continue to hamper the efforts of doctors and specialists. But the growing army of people equipped with knowledge and courage is our best insurance that we can and will wage a successful battle.

Only a few more weeks and the members of the Woman's Auxiliary to the American Medical Association will be arriving in Cleveland for their annual convention, June 2-6. Have you made your reservations? If not, send your request, at once, to Dr. Edward F. Kieger, Chairman of Committee on Hotels and Housing, 1604 Terminal Tower Bldg., Cleveland.

Of Particular Interest in Prescribing a Suitable Laxative During Pregnancy

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Now Contain Vitamin A

Mineral oil or, when needed, mineral oil plus aromatic cascara, in doses just large enough to provide gentle peristaltic stimulation, has long been regarded as appropriate laxative medication for the pregnant woman, since this form of therapy minimizes possible danger to the fetus.

Recent evidence, however, indicates a hitherto unsuspected effect of mineral oil: It renders unavailable for absorption the dietary carotene or provitamin A with which it comes into contact. This is of particular interest in caring for the expectant mother since it is so important to insure an abundant vitamin intake during pregnancy. Fortunately mineral oil does not interfere with absorption of vitamin A as such.

Both Emulserol (Plain) and Emulserol with Cascara now contain sufficient added vitamin A to compensate for the loss of dietary carotene caused by this selective solubility.

Emulserol is an emulsion containing 80% of mineral oil by volume and 8000 units of vitamin A per ounce. Emulserol with Cascara contains, in addition to the mineral oil and vitamin A, the equivalent of 15 minims of fluidextract aromatic cascara per ounce.

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DR. RUDOLPH MATAS
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From the long list of honors indicating the esteem in which Dr. Matas is held by his confreres, significant are his past-presidencies—the American College of Surgeons, Southern Surgical Association, International Society of Surgery and the Louisiana State Medical Association. Also it was he who received the first Distinguished Service Medal awarded by the American Medical Association. His contributions to the advancement of surgery are inestimable.

Gigantic of intellect, rich in versatility, profound in human wisdom, Dr. Matas possesses a fluency that is adequate for the loftiest reflections. Twenty-six years ago before the Mississippi State Medical Association he delivered the SOUL OF THE SURGEON as the annual oration. On May 13, 1941, the doctors of Mississippi await with keen anticipation the opportunity of sitting at the feet of the golden-tongued "International Dean of Surgery" on another like occasion.

Are the Neuritic Symptoms of Pregnancy *due to a deficiency of vitamin B_1 (thiamine)?*

SUCH common neuritic symptoms of pregnancy as pains in arms and legs, muscle weakness, and (less frequent but more serious) paralysis of the extremities may result from a shortage of antineuritic vitamins, recent investigations appear to show. Although neuronitis of pregnancy has long been considered a toxemia, no toxins have ever been identified.

Clinical observations of Strauss and McDonald lead to the conclusion that the condition is a dietary deficiency disorder similar to beriberi, caused by lack of vitamin B_1. They report recovery in their cases receiving this therapy, including dried brewers' yeast.

Hyperemesis as Cause of Avitaminosis

Wechsler observes that all cases of polyneuritis of pregnancy recorded in the literature were preceded by long periods of severe vomiting. "It would seem," he adds, "that because of actual starvation these patients suffered from avitaminosis and consequent neuritis," a view likewise held by Hirst, Luikart, and Gustafson. Plass and Mengert observe that the practice of giving high carbohydrate feedings for hyperemesis gravidarum is still more likely to cause avitaminosis.

Dried brewers' yeast, as it is far richer than any other food in vitamin B_1 (thiamine), is being used with benefit both in the prevention and treatment of polyneuritic symptoms of pregnancy. Lewy found that additions of yeast to the diet reduced electric irritability of the peripheral nerves and brought clinical improvement. Vorhaus states that he and his associates, after administering large amounts of vitamin B_1 (thiamine) to 250 patients having various types of neuritis, including that of pregnancy, observed in about 90% of cases "varying degrees of improvement, i.e., from partial relief of pain to complete disappearance of all symptoms."

Need for Vitamin B_1 (thiamine) in Lactation

Evans and Burr, Hartwell, Sure and co-workers, and Macy *et al* are among numerous authorities who find that the nursing mother also needs a supplement of vitamin B_1 (thiamine) from 3 to 5 times the normal requirement. It is accepted that during pregnancy and lactation the requirement for vitamin G (riboflavin) is increased.

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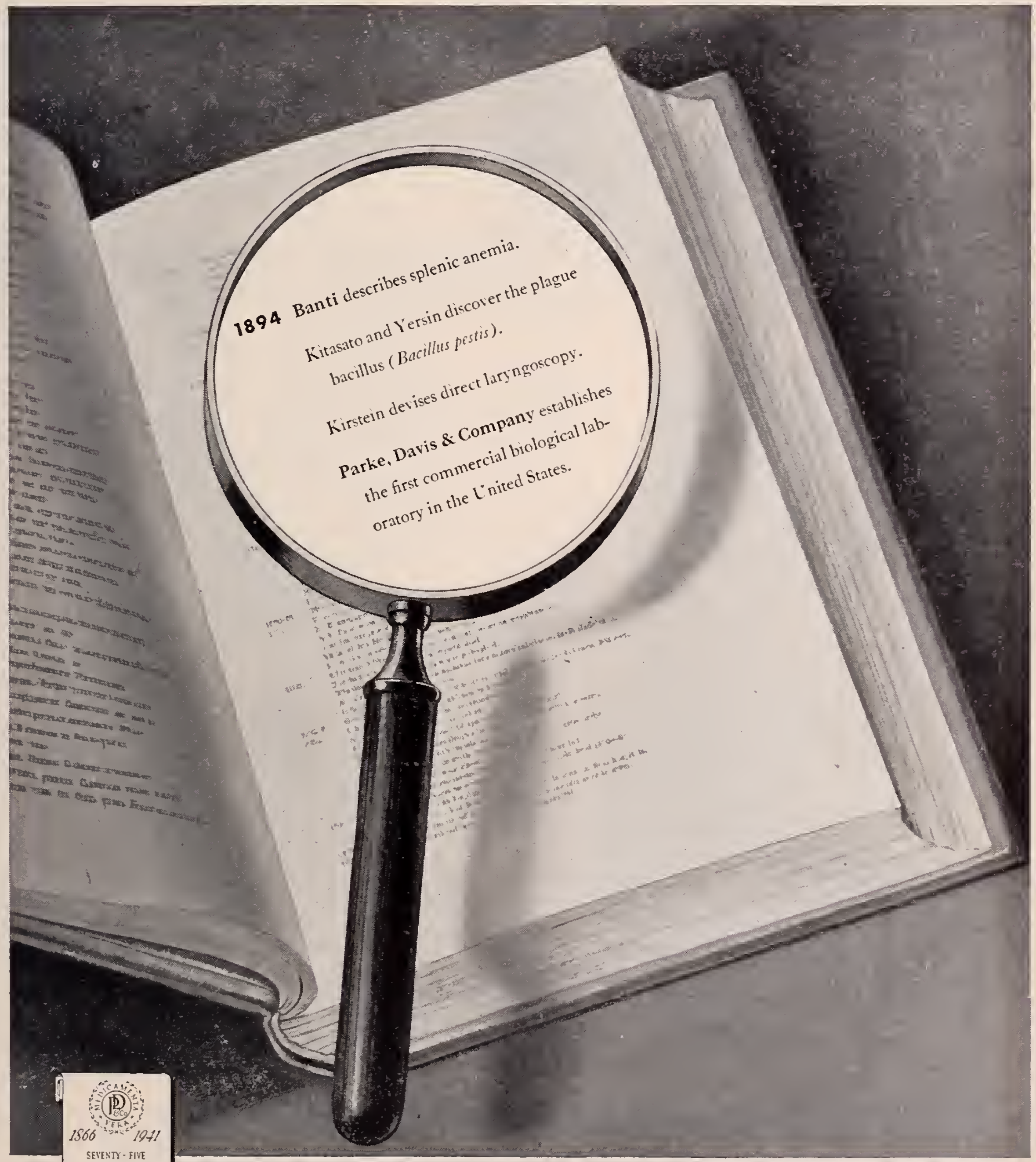

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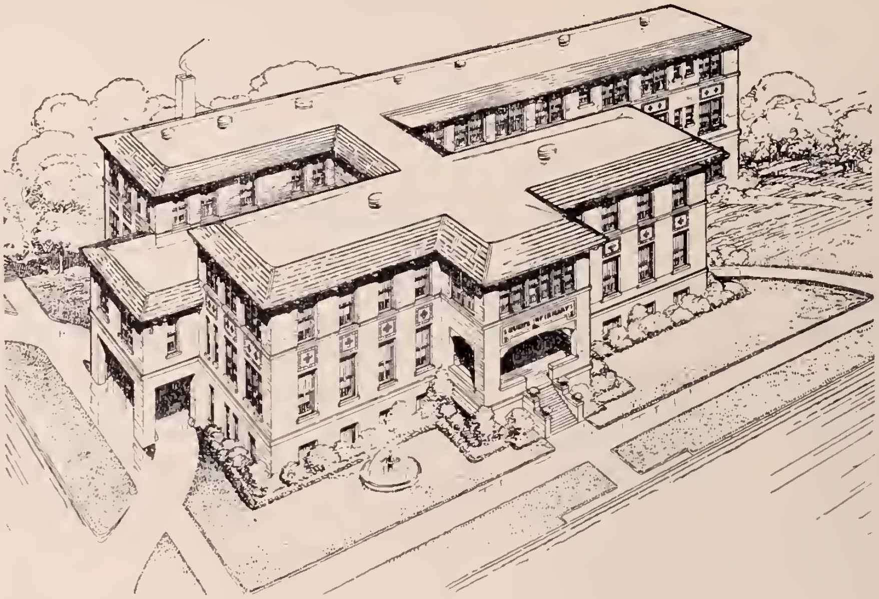

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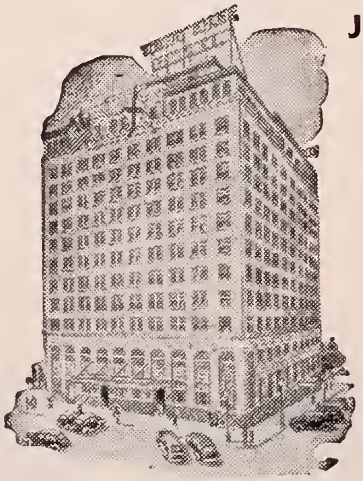

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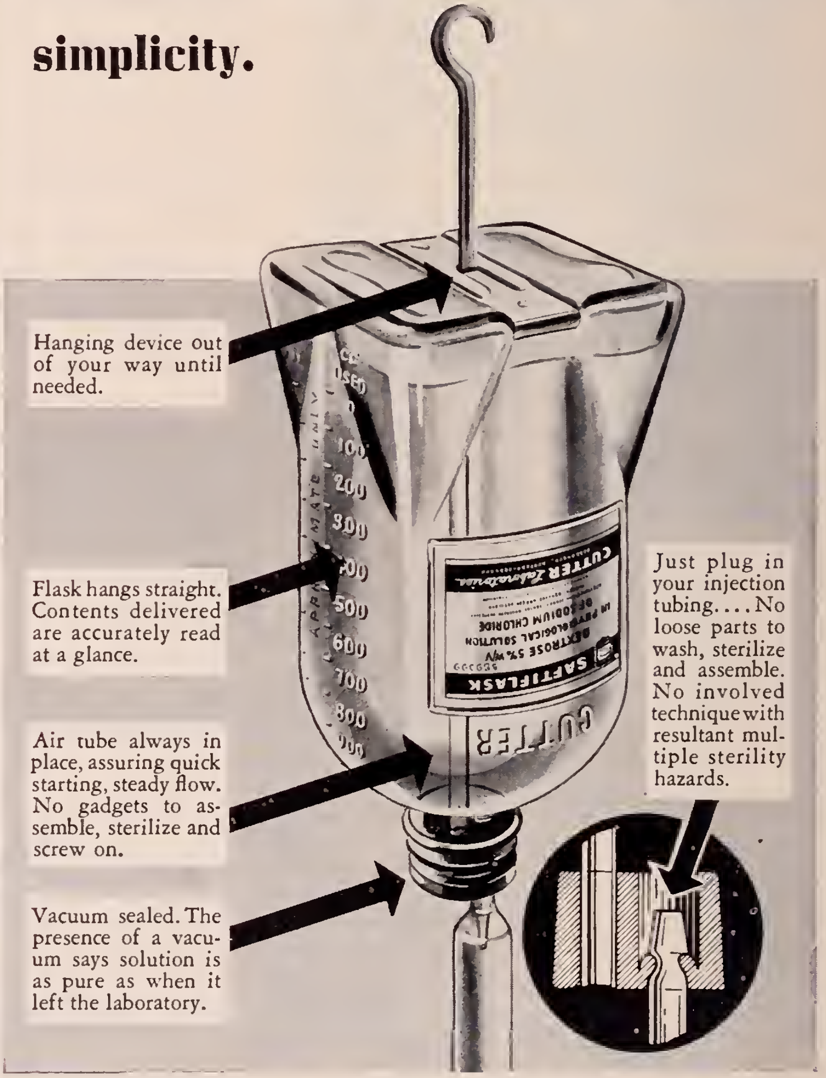
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Surgical Considerations of Obstructive Jaundice*

VERNE C. HUNT, M.D.
Los Angeles, California

THE SYMPTOM of jaundice as manifested by discoloration of the skin, sclera, mucous membranes and body fluids by bile pigment is a most important sign of a disturbed physiology. Jaundice immediately directs attention to those hepatic, biliary, pancreatic and splenic lesions which in one way or another alter the mechanism by which bile pigment is formed or which retard or withhold the excretion of bilirubin from the liver. Just what the true nature of the lesion or condition may be that is producing jaundice is at times extremely difficult to ascertain, and it frequently remains in doubt even after careful clinical observation and painstaking interpretation of laboratory aids.

In general, the significance of jaundice is readily appreciated if one bears in mind that within the body there occurs a normal process of a constant destruction of red blood cells, with the liberation of hemoglobin which is converted into bilirubin not in the epithelial liver cells, but in the reticulo-endothelial system. The function of the liver in bile pigment metabolism is primarily excretory. An excess of bilirubin in the body fluids, with resultant jaundice of varying degrees, is usually due to one of several causes: (1) an accelerated rate of destruction of red blood cells and the production of bilirubin in excess of the capacity of the liver to excrete it, (2) injury to the hepatic cells of the liver by infectious or toxic agents with consequent decreasing of the excretory capacity of the liver, or (3) mechanical interference within the bile passages to the free flow of bile into the intestinal tract. According to McNee, these varieties of jaundice may be designated respectively as hemolytic, hepatogenous and obstructive.

Diagnosis of Various Forms of Jaundice

In order that the surgeon may avoid surgical exploration of the biliary tract in those instances of jaundice in which surgical procedures are not only of no avail but are at times actually harmful, it is incumbent upon him that he have orderly, organized ideas pertaining to clinical data and the relative value of laboratory aids upon which a policy may be established in the selection of patients in whom surgical procedures are reasonably indicated. At times considerable difficulty is experienced in differentiating between non-obstructive or hepatogenous type of jaundice and obstructive jaundice. In many instances it is necessary to give due consideration to all of the various types of jaundice, and even after prolonged observation and critical analysis of the laboratory aids uncertainty as to the true nature of the jaundice remains. In general it may be stated that hepatogenous jaundice is usually painless, but the corollary does not follow that pain always characterizes obstructive jaundice. Other data gleaned from a carefully procured history may prove of value in differentiating the obstructive from the non-obstructive jaundice, particularly with regard to toxic agents prone to produce parenchymatous hepatic disease. The size of the liver in relation to the degree of jaundice and its duration oftentimes provides material aid in the differentiation. A palpable, distended gallbladder, in accordance with Courvoisier's law, quickly and with a high degree of certainty establishes an obstruction in the terminal portion of the common duct. The determination of the patency of the bile passages constitutes a most important item in the investigation of the jaundiced patient. To inquire about the color of the stools, or to view the stools for one's self is important in determining their bile content, but more reliably the chemical test for urobilin in the stool is in order. Duodenal intubation and examination of the recovered duodenal content for bilirubin contributes material information pertaining to the patency of the biliary passages. In the absence of bile pigment the duodenal content is a clear, colorless mucoid substance without odor. A faulty interpretation of the significance of absence of bile pigment from the duodenum and intestinal tract not infrequently accounts for error in differentiating non-obstructive from obstructive jaundice. It is believed that the polygonal cells of the liver are primarily concerned with the mechanism of excreting bile pigment through which bilirubin is transferred from the blood to bile. Parenchymatous hepatic disease of a severe grade in non-obstructive jaundice abolishes the excretory function of the liver as indicated by the absence of bile pigment from the recovered duodenal content. That sufficient parenchymatous hepatic disease may occur to interfere with the function of the liver in its bile pigment metabolism is attested by the so-called white bile or bile entirely devoid of pigment encountered in instances of prolonged complete obstruction of the bile passages. It should likewise be carried in mind that many obstructing lesions of the bile passages, while obstructing sufficiently to interfere with the free passage of bile into the intestine and to produce jaundice, may allow some bile to pass into the duodenum to be recovered on duodenal intubation. In other words, the significance of the presence or absence of bile pigment in the duodenum may be determined only in relation to other clinical and laboratory data.

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*Read before the fifty-sixth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 11-14, 1941.

In certain circles some value has been placed on the bilirubin content of the blood in differentiating one type of jaundice from another. However, experience with the various procedures has confirmed the idea that the bilirubin content of the blood serves in no way whatsoever as an aid in differentiating the non-obstructive or hepatogenous type of jaundice from obstructive jaundice. For practical purposes the icteric index and the indirect Van den Bergh test provide methods for the determination of the depth of jaundice and they serve to indicate its course.

There are certain instances where the weight of evidence favors the diagnosis of hepatogenous jaundice, in which, however, doubt remains regarding the probability of a ductal lesion, and the idea of surgical intervention may well be entertained. Certainly in such cases when pain is absent a period of observation is entirely in order. Bloomfield has recently asked the question, "Since hepatitis usually clears up spontaneously, how long should one wait for such clearing in a doubtful case of intense jaundice before concluding that one is not dealing with hepatitis and that an operation is therefore not in order?" He has answered this question admirably through reviewing twenty-nine cases which by their subsequent course proved to have been simple hepatitis, in which it was possible to determine with reasonable accuracy the number of days from onset of jaundice to the beginning of subsidence. The jaundice had begun to clear in two weeks in only 28 per cent of the cases and persisted in the remainder for three, four and five weeks before evidence of clearing was manifested. Bloomfield concluded from his observations that the surgeon who intervenes after a short period of observation will operate ill-advisedly on many patients who would later recover spontaneously. In order to be sure that one is not dealing with a spontaneously resolvable icterus he has recommended that one should wait in doubtful cases for at least four and perhaps five weeks before serious consideration is given to surgical intervention.

EFFECTS OF OBSTRUCTIVE JAUNDICE

To defer surgical intervention unduly in obstructive jaundice seldom accomplishes any purpose and usually serves only to promote and intensify those changes which occur within the liver and alter its various functions. The rapidity with which hepatic injury and disturbed function of the liver occurs is somewhat dependent upon the degree of obstruction and whether or not any patency of the bile passages persists. The higher the degree of obstruction the more rapid and severe the hepatic injury. Benign ductal lesions tend to maintain a degree of patency of the bile ducts, while neoplastic ductal obstruction tends to become complete. Weir has stated that the bile passages were partially patent in 87 per cent of cases of stone in the common duct, in 70 per cent of the cases of stricture of the common duct, but in only 15 per cent of the cases of obstructive jaundice due to carcinoma of the head of the pancreas.

A major function of the liver, one upon which the relative safety of operations upon the biliary tract depends and one which is rather abruptly disturbed by obstructive jaundice, is that of carbohydrate metabolism, which so far as known is not shared by any other organ or structure in the body. It is well known that the role of the liver in carbohydrate metabolism and in the maintenance of blood sugar levels is necessary to life. Also, the glycogen store, while not entirely confined to the liver, is depleted when true obstructive jaundice exists. The relation of the glycogen store to surgical risk is such that no surgical procedure upon the biliary tract may be carried out with a maximum degree of safety in the presence of obstructive jaundice without preoperative fortification of the hepatic glycogen reserve. Even though no methods are at hand which serve to estimate even approximately the degree of depletion of the glycogen reserve in obstructive jaundice or as a guide as to how much preoperative fortification of the liver is necessary, clinical experience has indicated that the metabolic mechanism is usually receptive to several hundred grams of glucose each twenty-four hours as a part of the preoperative treatment for several days preceding a surgical procedure on the biliary tract.

The problem of hepatic insufficiency with which the internist has to deal in the various types of hepatogenous jaundice, and which is of extreme importance to the surgeon in his management of obstructive jaundice, is a complex one. During the past decade much progress has been made in the management of patients in whom marked hepatic insufficiency has resulted from prolonged obstructive jaundice. It is now well known that in obstructive jaundice, with the concomitant nutritional disturbances, hypoproteinemia is prone to supervene. Without here presenting the data, it may be stated that there is much evidence to substantiate the idea that with depletion of the liver glycogen and protein an increase in the lipid deposits in the liver occurs; also that a liver high in fat and low in protein is highly susceptible to hepatic insufficiency. Ravdin has stated that it is important that the lipid deposits in the liver be decreased as much as possible prior to operation. Following their investigation of the effectiveness of the various diets in decreasing the hepatic lipid in the presence of common duct obstruction Ravdin, Johnson, Vars and Zinett concluded that a high carbohydrate-high protein diet is the most effective in conditioning the liver with adequate glycogen, high protein concentration, and low lipid.

Unquestionably the most important single contribution to the safety of surgical procedures upon the biliary tract in the presence of obstructive jaundice has been the control of the hemorrhagic tendency. To Dam and his associates, Quick and others, for having proved conclusively that certain hemorrhagic tendencies are the result of a deficiency in the plasma prothrombin, all credit is due for the elimination of the hazard of fatal hemorrhage following operations upon the biliary tract in the presence of deep and prolonged obstructive jaundice. For many years it was generally believed that the hemorrhagic tendency that developed in patients in whom prolonged obstructive jaundice had existed was due to a deficiency in one or another of the clotting elements, even though no deficiency in any element entering into the formation of the clot had been proved prior to about 1935. In spite of the fact that Dam and his associates showed in 1934 that a hemorrhagic tendency existed in the chick in which there was a prothrombin deficiency and that by the use of a diet which included certain vitamin-containing sterols, particularly vitamin K, the prothrombin content of the blood could be elevated and the hemorrhagic tendency thereby controlled, it was not until 1938 that the hemorrhagic tendency in human beings with obstructive jaundice was suspected of having something to do with a possible prothrombin deficiency in the blood. By this time the preoperative use of vitamin K and bile salts has proved specific in restoring normal plasma prothrombin content and a normal prothrombin time in obstructive jaundice which may be maintained postoperatively for as long a time as a tendency for prothrombin deficiency exists, thereby eliminating the hazard of the hemorrhagic tendency in operations for the relief of obstructive jaundice.

The risk of surgical procedures for the relief of obstructive jaundice has been materially reduced during recent years as the results of modern methods of rehabilitation of patients in whom marked hepatic injury has been sustained and biliary cirrhosis has occurred and in whom a plasma prothrombin deficiency has developed. Actually, certain operations which formerly were followed by a formidable if not prohibitive mortality rate, may now be performed with a reasonable degree of safety.

BENIGN LESIONS OF THE COMMON DUCT

Calculous disease of the ducts. In view of the relative safety with which operations may be performed for the various obstructing lesions of the common duct following the employment of adequate preoperative measures, it is entirely in order that one adopt the policy of not only recommending but urging surgical exploration in practically all cases of obstructive jaundice. Only through the adoption of such a policy may the greatest accuracy be achieved in ascertaining the true nature of the obstruction. While there are many factors in the history and clinical data by which an accurate preoperative diagnosis can be made, in the majority of cases there still remains a certain percentage of instances in which by clinical methods the true nature of the obstruction cannot be ascertained. It is worthy of emphasis that in these instances benign lesions may be differentiated from neoplastic disease only through surgical exploration. Many still persist in assuming that if jaundice is preceded by pain the obstruction is due to stone and that a so-called painless obstructive jaundice results from neoplastic disease of the extrahepatic biliary tract or of the head of the pancreas. Were all stones in the common duct clinically manifested by pain preceding jaundice and were all malignant lesions occluding the terminal portion of the common duct characterized clinically by painless jaundice, some justification might be found for this assumption. While it is well known that stone in the common duct is the most frequent cause of obstructive jaundice, the fact is not generally appreciated that calculous obstruction of the common duct in a considerable percentage of patients is not clinically characterized by biliary colic or by pain of greater severity than that frequently experienced by patients in whom neoplastic obstruction has occurred and there has developed what is usually designated painless jaundice. We have on a number of occasions found at operation one or more large stones in the common duct when the preoperative diagnosis of neoplastic obstruction of the common duct was strongly supported by the clinical evidence. Likewise, the severity and the character of the pain in neoplastic obstructive jaundice have on a number of occasions caused us to make a preoperative diagnosis of common duct stone. I should like to emphasize the fact that no one can always rely implicity upon the clinical evidence. When an opportunity for surgical exploration has been denied one during life simply because a diagnosis of carcinoma of the head of the pancreas has been made with assumed clinical certainty and the book has been closed, so to speak, it is indeed most disconcerting, to say the least, to find at necropsy a calculus obstructing the common duct instead of the anticipated clinically diagnosed neoplastic disease.

The frequency with which stones exist in the extrahepatic bile ducts is not generally appreciated. We well know that many of the cases of unsatisfactory results following cholecystectomy for calculous disease of the gallbladder are due to the persistence of one or more stones in the common or hepatic ducts which had they been searched for through an opening in the common duct could have been removed simultaneously with the gallbladder. It is true that clinically one may not suspect the presence of stones in the common or hepatic ducts unless the symptom of jaundice is present at the time of operation or has existed previously. Common duct stones do not always produce obstruction and consequently their presence is not always characterized clinically by jaundice. In my own experience jaundice has not been present in approximately 25 per cent of the cases of hepatic or common duct stone. Allen has recently made the statement that stones were found in the ducts in 20.7 per cent of the patients upon whom cholecystectomy was performed during a four-year period at the Massachusetts General Hospital. In our own surgical work at St. Vincent's Hospital during the past three years the common duct has been opened and explored in 42 per cent of the cases of calculous disease of the gallbladder, and one or more stones have been removed from the common or hepatic ducts in nearly half of the cases, or 19 per cent. From our own experience we have no reason to believe that a negative exploration of the interior of the common duct simultaneously with cholecystectomy contributes to the risk or mortality rate of cholecystectomy for calculous disease.

One may not safely rely upon his ability to palpate a stone in the common or hepatic duct. Frequently stones entirely elusive to palpation occupy one or the other of these ductal structures and only through instrumental exploration of the interior of the ducts may their presence be ascertained. For a number of years we have adhered to the policy of incising and exploring the interior of the common duct not only in those cases in which stones can be palpated and in which jaundice exists or has previously existed, but in those cases as well in which one or more stones are impacted in the cystic duct, and in all cases in which undue dilatation of the common duct is observed.

A distinct field of usefulness exists for cholangiographic study of the extrahepatic ducts by cholangiograms made at the operating table or at some early postoperative time as a means of providing information regarding the patency of the ducts and as to whether or not all stones have been removed. Best has reported success in the passage of common duct stones persisting after operation through the employment of what he has termed biliary flush. Certainly when any question exists regarding the oversight of a stone or the incomplete removal of stones, cholangiographic study is in order.

Stricture of common or hepatic duct. The sequelae of accidental division of one of these ductal structures, excision of a segment of the duct, or its inclusion in a suture or ligature in the course of cholecystectomy, are such that irrespective of surgical repair of the injury, many patients in whom such injury has been sustained are destined to a life of ill health characterized by recurrent fever, chills and jaundice. The prevention of such injury may be facilitated only through possession of an intimate knowledge of the anomalies of the ductal and vascular structures and as to how these structures may be altered in their appearance and in their anatomic relationships in the presence of intra and extrabiliary tract disease. Visualization of the ductal and vascular structures during the course of cholecystectomy provides the means by which injury to and subsequent stricture of ducts can be prevented. Once injury has been sustained and stricture develops, the method of repair that may be utilized is an individual matter as pertains to the nature and location of the stricture and as to whether or not an external biliary fistula exists or has been established. Without discussing at this time the various surgical procedures that may be employed to repair the injury to the ductal structure or that may provide suitable passage of bile from the liver to the intestinal tract, it may be stated in general that the surgical procedures are often difficult to perform, the immediate risk of reconstructive restoration of the biliary passage is considerable, and the ultimate result is not always entirely satisfactory.

NEOPLASTIC OBSTRUCTION OF THE COMMON DUCT

The operability of primary carcinoma of the extrahepatic ducts has not been great and the mortality rate of radical removal of such lesions in the past has been high. Exception to this general statement may be made for primary neoplastic lesions in the distal end of the common duct or in the periampullary portion of the duodenum. In these lesions the clinical manifestations are similar to those of carcinoma of the head of the pancreas. The frequency with which a carcinoma of the periampullary region of the duodenum with obstructive jaundice has been found at autopsy and described as a locally confined, movable, operable lesion without extension to surrounding structures and without metastases, when a clinical diagnosis of carcinoma of the head of the pancreas has been made, urges the adoption of a rather broad policy regarding exploratory diagnostic investigation. Inasmuch as a fair degree of operability has been established in malignant lesions of the terminal portion of the common duct and in periampullary neoplastic disease, the recommendation for surgical exploration in all cases of suspected neoplastic obstruction of the terminal portion of the common duct is entirely warranted.

Considerable progress has been made during the past five years in facilitating successful extirpation of neoplastic obstructing lesions at or about the terminal portion of the common duct. There are recorded approximately 120 cases of carcinoma of the ampulla of Vater and periampullary portion of the duodenum in which resection by one method or another has been accomplished. During the past six years we have successfully performed resection of carcinoma of the ampulla of Vater in one stage in three cases. In the last of these the resection included the head of the pancreas. The contributions of Whipple, Parsons and Mullins provide the solution to some of the problems pertaining to radical removal of neoplastic obstructing lesions in the terminal portion of the common duct and those of the head of the pancreas. Even though the operability of carcinoma of the head of the pancreas, producing obstructive jaundice, has been practically nil, Brunschwig and others have indicated the possibilities in continued endeavor to extirpate closely and locally confined neoplastic disease in this situation.

727 West Seventh St.

Peptic Ulcer*

RAWLEY M. PENICK, JR., M.D.†
NEW ORLEANS, LA.

Although peptic ulcer has been recognized for over a hundred years, our knowledge of the causative factors is still imperfect. This situation is not the result of a scarcity of clinical material, for it is common disease occurring in all races and necropsy material in this country and Europe indicates that at least one person in every ten is affected at some time during his life. Nor has experimental research been lacking. At present the body of facts thus obtained is so large that it is difficult for one person to digest it fully. Evidently, therefore, the disease is caused by some abnormality about which we know little, or else there are many predisposing factors, the relative importance of which is difficult to determine. The latter is more likely to be the situation. Certainly from the standpoint of treatment, we can say with assurance that more than one contributing cause must be considered in order to apply the proper form of treatment.

This discussion will be limited to those factors that tend to bring about peptic ulceration in the gastrointestinal tract, and also to the treatment of the disease. This neglects several important phases of the problem, but is a good way to form a foundation on which to base therapy. Furthermore, individualization, which is greatly needed in this sphere, can only be successful when these same factors are understood and appreciated.

A study of the age and sex of these patients throws little light on the fundamental causes. It is predominantly a disease of the middle decades but may be found in both the very young and the aged. Duodenal lesions tend to occur more frequently in younger individuals, and under these conditions are almost always accompanied by a persistently high gastric acidity. This alone makes the youthful group more difficult to treat by conservative means and in addition renders them more susceptible to recurrences even after radical surgery. Incidence also varies with sex. Men have duodenal ulcer about four times as often as women, but gastric lesions occur about equally in the two sexes. No race has been found to be immune, but there is ample evidence to substantiate the view that those with higher mental development are more prone to develop ulcer.

The influence of food is another factor which is hard to evaluate. The negro who often has bad eating habits and improper food shows much less tendency to ulcer than does the white population. In India, where eating habits vary greatly in several providences, the incidence of ulcer also varies. Such studies lend support to the view that highly seasoned foods or foods limited to a few articles constitute a predisposing cause. The latter supports the view that avitaminosis may play a part and this has recently received support from experimental work. In brief, although the daily diet may be a vital factor in producing ulcer, it is probably only the extremes of bad food, high seasoning, or low vitamin content that are capable of producing ulcer without the presence of other factors.

The influence of alcohol has received less attention than it deserves. Most of us are familiar with the gastritis and the accompanying symptoms following alcoholic excesses. Other effects of alcohol on digestion are too well known to require further discussion. It is my opinion that this factor is responsible for the well authenticated difference between the ulcer tendencies of Europe and those of this country; in Europe and England multiple ulcerations are more common and more frequently accompanied by a gastritis which has been made much of as a precursor to ulceration. Studies in this country fail to demonstrate that these are present to anything like the same degree. It does not seem improbable that this difference is accounted for mainly by daily intake of wine or other alcoholic beverages by the European, for it is well known that dilute alcoholic solutions act as a powerful stimulus to the acid-producing cells of the stomach.

Tobacco, mental strain and emotional stress have long been regarded as potent elements in the genesis of ulcer. Thus we are not surprised to find the disease more prevalent among executives, doctors, and chronic worriers. It is perfectly possible that such mental tension brings about an imbalance in the autonomic system and in its wake follow disturbances of gastric secretion and motility—themselves the precursors of ulceration. Indeed, it has been found that powerful parasympathetic stimulants, such as pilocarpin, increase the flow of acid in the stomach. More tangible evidences of a neurogenic origin are coming to light following Cushing's observations on the frequency of peptic ulcer after cranial operations and particularly when lesions of the hypothalmus are present. A series of such brain lesions were recently reviewed. Much other evidence could be cited to substantiate this thesis but little would be accomplished at present because it is not yet possible to fit the various parts of this puzzle together. There is every reason to believe that further study will throw light on this problem which is perhaps after all the fundamental one.

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*Read before the Issaquena, Sharkey, Warren Counties Medical Society, December, 1940.

†From the Department of Surgery, L. S. U. School of Medicine, New Orleans, La.

Much has been written and said about tissue susceptibility. We do know that the acid producing mucosa of the stomach is the least susceptible and that the susceptibility increases with the distance down the intestinal tract. This trait is inherent in all animals that have been studied and is not an individual characteristic. On the other hand, there is, to my mind, no evidence that we inherit a greater or lesser tissue susceptibility, that is, that the tissues of one person are more vulnerable than another. What we inherit is a tendency to worry or an unstable nervous system. Recurrent ulcers or marginal ulceration in the same individual proves nothing except the same influences are at work which produced the primary lesion.

Probably the most important causative factor in the production of ulcer is gastric acidity. It is certainly the one about which we know most. Long ago increased acidity was found to be a frequent finding in this disease. About 90% of the patients with the lesion in the duodenum show hyperacidity and it is thought that none of the remaining 10% has a real absence of free hydrochloric acid in the stomach. The resting juice is also more in amount and contains more acid than that found in normal individuals. This factor in itself may be of greater significance than was formerly believed. With gastric lesions the incidence of high acid values is less frequent; indeed, in over half the patients, acid values are within normal limits. This is a very fundamental difference and forms one of the most important reasons why some have felt that gastric ulcer was an entirely different entity.

Soon other findings were forthcoming. One of these was contributed by the surgeon who began to anastomose the stomach to the jejunum (gastroenterostomy). This operation was first done for carcinoma, but later was applied to ulcer with the result that a second ulceration often occured at the newly made anastomosis. Such gastro-jejunal ulcers, however, never occurred when there was an absence of free hydrochloric acid, as is often the case with carcinoma of the stomach, and were rarely seen if done for gastric ulcer, where again the acidity is frequently low. These findings indicate clearly the importance of this factor in at least the formation of these marginal lesions and, when viewed in the light of clinical findings, lends support to the assertion that increased acidity also plays a major part in spontaneously occurring duodenal lesions. This relationship with gastric ulcer is less clear and indeed the facts indicate, to my mind at least, that other factors are of more significance in its causation.

To these facts animal research has added many others which substantiate the importance of acid. In this field the way was pointed out by a congenital anomaly that introduces hydrochloric acid into the lower gastrointestinal tract at an unaccustomed place. I refer to the occurrence of functional gastric mucosa in Meckel's diverticulum of the ileum. That these misplaced bits of tissue sometimes produce acid is undeniable. Here the acid juice meets hardly any neutralizing influences and comes directly in contact with the intestinal mucosa. As a result, ulceration occurs which is of true peptic origin. A similiar situation is easily simulated in the experimental animal. A pouch or patch of gastric mucosa, having no communication with the stomach, can be transplanted into the lower intestine. A true peptic ulcer always results in the susceptible intestinal wall where it is bathed in acid.

The experimentalist found a more complicated situation when he attempted to bring about ulceration higher in the tract. Boldyreff as long ago as 1911 pointed out that the bile and pancreatic juices were composed principally of base and were, therefore, capable of neutralizing acid. He showed that a reflux of these juices occurred normally into the stomach during digestion and felt that it was an important means of reducing the uncombined acid that reached the pylorus, thereby protecting the duodenum from its damaging action. It is now conceded that regurgitation does take place but there is no agreement as to what part it plays normally in the prevention of ulcer. Many facts, however, attest the importance of the neutralizing properties of the bile and pancreatic juices. One evidence of its efficacy is the fact that peptic ulceration does not occur in the duodenum below the point where these elements make their entrance. Then, too, if these juices are made to enter a dog's intestine at a lower level so their influence is lost where the acid contents of the stomach pour into the intestine, ulceration almost always results at the latter place. The operation to bring this situation about was revived by Mann and his associates as a means of producing ulcers in the experimental animal, but it had been done by Exalto many years before.

Other evidence to indicate the importance of acid should be mentioned. For example, histamine, which greatly stimulates acid secretion, will often bring about ulceration if administered over a long period. One observer has recently accomplished this by implanting a small amount of the drug mixed with bees' wax beneath animals' skins; slow continuous absorption takes place and peptic ulceration is produced. Dilute hydrochloric acid when introduced into the stomach can produce the same effects.

If then, this is such an important factor, why not control acid production? It is much easier said than done, but we have a feeling that if this could be accomplished simply, the problem of treatment would be made easy. Many attempts in this direction have been made. Section of the vagus nerves, for example, causes a short-lived reduction, but soon the effect is lost. Other forms of denervation bring about little change. That this inherent ability to produce acid is something that seems to persist as long as the mucosa is alive is indicated by the fact that if the blood supply is interfered with, secretion will continue as long as enough blood reaches the tissue to sustain life. In fact, if gastric mucosa is transplanted to another part of the body without its nerve and blood supply, acid will be formed if the graft lives. This persistence in acid secretion has compelled us to adopt means for its regulation that are far from being physiologic. Drugs at present offer little. Atropine does bring about a reduction but it is questionable how long this effect lasts when administration is continued for weeks or months. Other drugs are used mainly for neutralization or absorption of the acid after it is formed. Certain foods, for example, fats, seem to have a tendency to reduce the flow of acid and they also have a neutralizing effect which has proved most valuable in clinical treatment.

Surgery, of course, suggests itself in this battle against acid. Why not remove all that portion of the stomach that produces acid? This is possible, but represents a formidable procedure because it would be necessary to resect the entire stomach with the exception of the pyloric antrum and the cardia—an extensive procedure, indeed. However, this same principle, somewhat modified, is now being widely used and constitutes the most successful operation for duodenal ulcer. I refer, of course, to subtotal resection in which a large part of the stomach is removed, thereby reducing the amount of acid formed. The concentration of the acid still secreted remains the same, or about one-half of one per cent, but the total quantity is materially reduced and thus the neutralizing factors are more effective. All operations must take into consideration the latter. The neutralizing action of the duodenal juices have already been mentioned and it is on the distribution of these after operation that success depends. Making the pylorus wider by a plastic operation (pyloroplasty) will cause more regurgitation of the alkaline juices, but with the whole stomach to form acid this is usually not enough. Gastrojejunostomy (gastro-enterostomy) has somewhat the same effect for the main reduction in acidity, which is small, is due to regurgitation through the newly made opening. The great reduction in the acid values by subtotal gastrectomy is, therefore, due to a combination of these two elements of success, viz: a provision for regurgitation of alkaline duodenal juices into the stomach and an actual reduction in the amount of acid produced.

Other factors which may take part in the production of peptic ulceration are infection and local vascular spasm. Although each has its champions, very little is known of their significance at present.

In planning the management of chronic ulcers, those differences that exist between gastric and duodenal lesions must be considered. As already pointed out, the acidity is usually higher in the duodenal type and hence recurrence is more frequent. Marginal ulcers are also more prone to occur after surgery. On the other hand, with gastric lesions the acidity is lower and once healing has taken place, recurrence is less likely. Marginal ulcers are also rarer. Furthermore, it is sometimes difficult to differentiate benignity from malignancy in the stomach and these ulcers are known to undergo malignant change in seven to ten per cent of the cases. The duodenal ulcer becomes malignant so infrequently that this possibility may be disregarded. Chronic duodenal ulcer should always receive adequate medical treatment before surgery is considered. Perhaps the same may be said of gastric lesions but the surrounding circumstances are somewhat different because here there is a premium on the time element. It is my custom to put these patients to bed and give intensive medical treatment. If at the end of four weeks the lesion is not definitely smaller as shown by x-ray, then prompt surgery is indicated. If the ulcer does diminish in size, strict observation and treatment are continued, not only until the defect has disappeared, but until normal peristaltic waves can be seen passing over the area with flouroscopy. Unless this end result is obtained, operation is indicated. Experience has shown that large lesions can at times be healed in this way without undue danger.

In duodenal ulcer, surgical intervention is not so imperative unless serious complications arise. It is only these or a failure of medical treatment that indicate surgery. This sounds simple, but actually many problems in judgment arise. Recurrence, for example, often occurs. Medical treatment is said to offer good results in about ninety per cent of the cases, but Crohn found that recurrence took place in 50 per cent within four years. Such experiences led Moynihan to say the patients he operated on had been cured on an average of six times before. How many recurrences should occur before surgery is resorted to is still a problem that depends on individual judgment. At the Lahey Clinic, only eight per cent of those patients admitted with duodenal ulcer are submitted to surgery.

Surgery is very successful for gastric ulcer, but leaves much to be desired when applied to duodenal lesions. There is the operative mortality, the formation of marginal ulcers, and a failure to relieve symptoms. With better selection of cases and more radical resections, these failures are being reduced.

Without going into details, I would like to emphasize a few points in medical treatment. In view of what has been said, such therapy should have several aims. In the first place, I do not believe that the term "adequate treatment" applies unless the patient is put to bed for at least three weeks and preferably four. This is always important but particularly so when psychogenic elements are playing a significant role. For the same reason sedatives are often a valuable adjunct. I believe atropine is a valuable drug, often neglected. The diet must, of course, be a bland one, but should contain butter fat also. Small feedings given frequently or suitable food really serves to reduce the acid. Alkalies, combined with the proper dietary régime help accomplish the same purpose, but have certain advantages which are sometimes not realized. Thus the soluble alkalies may produce a serious alkalosis, and excessive quantities also stimulate further acid secretion. Because colloidal aluminum hydroxide obviates both these difficulties, it has proved to be a distinct advance. This material is not absorbed and does not neutralize chemically; it merely holds the acid in combination.

As was pointed out earlier, the resting gastric juice in ulcer patients is more copious and has a higher acid titre than is found in normals. This fact makes it undesirable for long periods to elapse without food or neutralizing substance, and for this reason, the night, as well as the day should be utilized for feedings or neutralization. Sippy's régime has stood the test of time and still forms a valuable method of early treatment. Later the patient should remain on a bland diet with feedings of milk and cream between meals.

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The Open and Closed Treatment of Compound Fractures*

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THE TREATMENT of compound fractures is one of the most difficult of orthopedic procedures. In reviewing the literature before writing this paper I have run into many contradictory opinions.

1. Should the wound be left open or closed with primary sutures?

2. Should drains be inserted?

3. How thoroughly should débridement be carried out?

Other arguments are too much versus too little mechanical cleansing; internal splinting versus the damming of internal fixation; the use of plaster of Paris versus supportive external splints. When is traction indicated? What are the consequences of operating when the patient is in shock? The use of antiseptics—one asks if their bactericidal power overbalances their devitalizing power. When is amputation advisable? These are only a few of the questions that one must consider in treating a compound fracture. There is no standard treatment; each case must be individualized and treated by the surgeon who follows the type of treatment which experience has shown him gives the best results.

Fifteen years ago a paper was read before the American Surgical Association. Its tenets hold good today. The essence of this paper held that "the most important consideration in the management of compound fracture is the wound of the soft parts. If our wound is aseptic tetanus and blood poisoning are impossible, bony union and movable joint are favored, osteomyelitis will not develop and a useful, if not absolutely normal, extremity will be saved."

The major point of controversy in the treatment of compound fractures is whether the wound should be closed with primary sutures or left open. Leading authorities differ. Sherman considers every compound fracture infected and believes that all should be left open and made bacteriologically clean. Schudder follows along the same line suturing only punctured wounds seen within ten hours of the accident. All leading orthopedists believe in débridement as the chief source of eliminating potential infection but some are much more radical than others. Fraser recommends radical incision and conservative excision. He incises soft tissues widely to avoid development of interstitial tension.

Wounds of compound fractures can be classified into two main groups. 1. Where the wound is caused from within out, that is by the fractured ends of the bones. Usually in producing this type of wound the bone ends cut cleanly through the soft parts and the wound in the skin is usually small and clean cut, the ends seldom protruding. However, if the bone ends do cut through the skin and then go back there is every chance that they carry infection from the skin back with them.

The second type of wound produced from without in is caused by direct violence, a crushing injury, as a wheel passing over a limb or a heavy weight falling on the part. Often the injury to the soft tissues is extensive, the skin may be found separated over a large area, muscle planes separated and infiltrated with blood resulting in impaired circulation far outside the actual wound. These wounds are obviously contaminated, infection being ground in, so to speak, by the crushing injury.

Yet another compound fracture produced from without in is the type produced by bullet wounds. Gross contamination is usually certain as infection from bits of clothing or from the bullet itself is carried deep into a field ideal for bacterial growth.

I have not meant to overstress the importance of the treatment of the wound at the expense of the treatment of the fracture itself. Often the great importance of maintaining length and position is overlooked in the interests of the wound treatment. Proper immobilization in itself is some guarantee against infection. This accounts for many cases of malunion, shortening, angulation, overriding deformities of bone and partial union due to lack of apposition of fragments. These can be avoided by bringing the fragments into apposition and maintaining them by fixed traction methods. By this I mean traction that is applied when the fracture is first reduced and so immobilized that the fracture remains undisturbed until at least primary healing has taken place. Pin traction or pin traction with casts is one of the best methods.

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*Read before the Delta Medical Society at its thirty-sixth semi-annual meeting, Indianola, Miss., October 9, 1940.

Those obviously infected and draining fractures seen late must undergo as little meddling as possible. Débridement is contraindicated here. Reduce the fracture to get rid of large cavities lying between displaced ends and to free the blood vessels which have been compressed by the fragments—thereby improving circulation. Then the fracture must be kept immobile. There is no greater mistake made than removing the splint to dress the infection. You would not treat an abscess by sticking your finger into the cavity and running around and around. Yet that is what the surgeon does when the fracture is not kept immobilized. There is the possibility of a chill or even a generalized septicaemia developing when the fragments are continually molested.

Orr believes that frequent dressings and irrigations are unnecessary and violate the principles of fracture therapy. I would like to go even further and say that compound wounds left open should not be dressed at all, but left exposed for dressings quickly become saturated with drainage and act only as an infected blanket covering the wound. With no dressings the wound furnishes a sero-sanguineous discharge which forms its own bacteriophage and also helps seal up the wound. Furthermore, drains in wounds left open are contraindicated and unnecessary.

Prophylactic tetanus and gas gangrene serum should be given routinely, given early and the dose repeated after one week in any suspicious cases. Early symptoms of anaerobic infection should be emphasized, for successful treatment depends on early recognition and prompt treatment. A wound discharge is the first symptom with an unpleasant and later a foul odor after 24 hours. At this time the discharge becomes dark brown and the skin about the wound assumes a patchy yellow green, coppery discoloration. Take cultures and smears from all suspicious cases. In the smear a large gram x bacillus with square ends which may contain spores is enough to make a diagnosis before clinical symptoms are well developed. To wait for such symptoms as crepitus and gas bubbles is too dangerous in delaying treatment. Infection comes from without in. The ones we fear most are (1) staphyloccus, (2) streptococcus, (3) tetanus, and (4) gas bacillus. Cotton says there are two types of gas gangrene: (1) a severe type that destroys muscle and (2) a milder type that destroys subcutaneous tissue. Both can be fatal. Treatment is surgical incision, serum, oxygen, x-ray therapy, local implantation of sulfanilamide, (sulfanilamide by mouth or possibly a solution of sulfapyridine intravenously), and amputation when indicated.

There is no postoperative work that should be watched more closely than the after care of fractures. Complications are many and varied, such as stiffness of joints, atrophy of muscle and bone, bad position of fragments and the ease with which a compound fracture can become contaminated and osteomyelitis develop.

Continued pain after the reduction of a fracture means one of two things. The splint or cast is too tight or the fracture has not been properly reduced.

Up until one year ago we had employed rustless steel wire as the method of choice in cases where internal fixation was desirable. However, more recently we have been using vitalium plating wherever possible. Vitalium is an alloy of chromium, cobalt and molybdium—first presented to the orthopedic world in 1936 by Drs. Charles Venable and Walter Stuck, of San Antonio, Texas. This metal is unique in that it is electrically neutral. The component parts are so close together in the electromotive series that they possess only a slight difference of potential, and even in the presence of moisture, as in body fluids, there is no electrolytic action. Hence there is no corrosion, and no bony destruction or absorption, and no reaction in the surrounding tissue. Vitalium is a silent metal. X-rays taken months afterward, according to Campbell, Stuck, and Venable, will show no necrosis or absorption of bone about the screws. The answer is no electrolysis—no corrosion. Stuck and Venable have proved this repeatedly in animal experimentation and also in chemical analysis and experiments. For example, a piece of vitalium was put into an air-tight saline bath and after four months there were no signs of corrosion. The metal remained perfectly clean.

Vitalium plating for the first time gives a safe method of plating a compound fracture. In the past, the high rate of infection, loosening of screws, and loss of position has discouraged orthopedic surgeons with the old Lane plates on any type of ferrous alloy plate.

It has been shown even further by Campbell, Stuck, and Venable that even in the presence of infection there is no absorption of bone and loosening of the screws and the vitalium plate is not affected by, nor does it seem to affect the course of the infection in any way.

The immediate reduction of a compound fracture with vitalium plating has definite advantages:

(1) Easier to reduce immediately after injury.

(2) Accurate reduction hastens union.

(3) Obliteration of dead space diminishes likelihood of infection.

(4) Less need for external immobilization, permitting better observation and treatment of the wound without constant movement of the fracture site.

My experience in the past year with this metal has been too limited to make an intelligent criticism as to whether it inhibits callus formation. Other authors say no. I am sure that the other metals as Lane plates, beef bone—vanadium steel and even wire do inhibit callus formation.

Union in a compound fracture or an open reduction will of itself be necessarily delayed, mainly due to interference of the blood supply. I firmly believe that wherever internal fixation is decided upon, vitalium plating should be the first choice, if feasible for the type of fracture being treated.

For years, we, of this clinic, have stressed that all compound fractures are potentially infected, and that all should receive the open treatment as the safest and best method of handling these cases. However, since the appearance of an article in Surgery, July, 1939, Nelson, Jensen, and Johnsrod, of Minneapolis, Minn., we have come to modify this stand to some extent. These authors presented 40 cases of compound fractures treated with local implantation of sulfanilamide and immediate closure of the wound. They reported the unbelievable number of 39 out of the 40 cases healed by primary union with no infection. In a control series treated identically except for the sulfanilamide there was a 27% rate of infection with the development of traumatic osteomyelitis. (5 to 15 gms. were employed as the dose of sulfanilamide). Other authors have reported good results from huge injections of neoprontosil. A daily blood count must be employed when using sulfanilamide because the danger of the development of a leucopenia. Marked secondary anemia is also a distinct possibility following the use of this drug.

Since July, 1939, I have employed this method in 16 cases, 2 compound fracture metacarpals, 1 compound humerus, 5 compound fractures tibia and fibula, 2 compound fractures femur, 2 compound fractures patella, 1 compound fracture pelvis, 2 compound fractures radius and ulna, and 1 compound fracture of wrist, with 13 good results and 3 poor results. In analyzing the cases, I do not think the 3 poor results can be blamed to the sulfanilamide. One case was a compound fracture of the tibia, grossly infected on admittance, six inches of the bone exposed and covered with Delta mud, and the soft tissues and blood supply so badly damaged that possibly an amputation should have been done on admittance.

In a second case—compound fracture of the tibia and fibula just above the ankle joint—there was considerable loss of skin over the lower end of the tibia where subcutaneous tissue is minimal. In order to close the wound, considerable tension had to be applied so that the blood supply to the skin was insufficient. This later cleared up when the wound was left open with azochloramide packs applied and the wound allowed to heal slowly by granulation.

The third case, a fracture of tibia and fibula, simply became infected—but later healed satisfactorily. The original injury was severe, the ankle bones comminuted and crushed. I believe that this case would have fared much better had she had the open treatment from the start.

I have also packed many potentially infected traumatic wounds as knife cuts, etc., with sulfanilamide—and closed them primarily without drainage. The results have been excellent, reducing infection to an absolute minimum.

Sulfanilamide is not a cure-all, but it is definitely a great aid in preventing infection—along with mechanical cleansing with soap and water, a thorough débridement, prompt reduction and immobilization, and strict aseptic technique throughout.

In the May, 1940, Southern Medical Journal, Dr. J. Albert Key presents some important experimental evidence of the bactericidal value of local implantation of sulfanilamide. Open fractures of ribs produced in a series of guinea pigs were flooded with a virulent strain of staphylococcus aureus, one-half gm. of sulfanilamide inserted and wound closed. Only 20% became infected. In a control series minus sulfanilamide 72% became infected. Local implantation of sulfanilamide produces a concentration of 800 mgs. in and around wounds for the first 36 hours while only 15 mgs. concentration in blood level is produced when the drug is given by mouth.

Local implantation inhibits growth of bacteria and permits natural body defense mechanisms to destroy them. Key was also able to prove conclusively in a series of experiments on compound fractures of tibia in dogs that local implantation of sulfanilamide does not tend to inhibit callus formation or to delay union in any way.

Key calls attention also to the great importance the closing compound fractures with sulfanilamide would assume in case of war; the great saving of time, in hospital personnel, materials, and increased efficiency of treatment.

Of necessity the disability is prolonged in the treatment of compound fractures. Callus is slow in making its appearance for many and various reasons. I have found that the best aid to the promotion of callus formation in all cases of slow or delayed union is the use of the pavaex machine. The theory of this machine is that the alternate negative and positive suction increases the blood supply to the affected site, thereby promoting callus formation. I have proved this clinically to myself time and time again with the use of this method. Other aids to callus formation I employ are high calorie diet and calcium therapy, dilute hydrochloric acid and spintrate tablets.

In conclusion, I would like to lay stress on one important point. The open treatment is preferable and safer in cases that are grossly infected on admittance with extensive damage to the soft parts. In those compound fractures that are not obviously contaminated, with minimal damage to the soft tissues, the closed treatment with local implantation of crystalline sulfanilamide is the method of choice. The hospitalization will be shortened, the healing time lessened, the patient more comfortable and the treatment less expensive.

The practice of orthopedics is one of patient attention to details, but the results that can be obtained by correct treatment are well worth the effort.

Ole Miss Medical Alumni*

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INTRODUCTION

THIS is a preliminary report or summary of the data obtained since August 1, 1940, in preparation for publication in the form of a University Bulletin, AN HISTORICAL RECORD OF THE PERSONS WHO HAVE COMPLETED THE TWO-YEAR COURSE IN THE BASIC SCIENCES AT THE UNIVERSITY OF MISSISSIPPI. A similar bulletin was published in May, 1925[1]. It has been brought up to date and the record of each graduate since then, so far as possible, has been appended†. In this paper some general comments on medical education and the need of medical care in Mississippi are presented for consideration.

HISTORICAL SUMMARY

The School of Medicine of the University of Mississippi was actually created by a special act of the Board of Trustees in June, 1903; however, it is interesting to know that in 1870-71 the Board passed a resolution relative to establishing a medical department in the University[2]. This resolution was, "This professional school will be organized and put into regular operation upon the plan in the University of Virginia, which has proved to be so eminently successful, just as soon as the resources of the institution shall have increased to a sufficient amount to admit it, and hopes are entertained by the friends of the University that the time will not be delayed much longer when this shall be realized." This statement was included in the University catalogue from 1870 to 1879, but was dropped from the catalogue of 1880[2]. The matter was then held in abeyance until Dr. R. B. Fulton, then professor of physics and astronomy, was elected to the chancellorship of the University in 1892. In 1895 Chancellor Fulton presented the matter for consideration before the Mississippi State Medical Association[3]. Dr. P. W. Rowland, now professor of pharmacology in the University of Mississippi School of Medicine, was president of the Association at that time. In 1896, "The question of a Medical Department for the State University was again agitated, the president stating in his address that the legislature had committed itself to such a step[3]. Finally, assisted by Dr. W. S. Leathers, now dean of the Vanderbilt University School of Medicine, Chancellor Fulton succeeded in organizing the School of Medicine in 1903. During the first six years only the first half of a regular four-year course in medicine was given. During the sessions of 1910-11, the work of the last two years was given at Vicksburg in connection with the State Charity Hospital of that place. The work at Vicksburg was discontinued after one class had been graduated, and the University reverted to the plan of offering only the first two years of the medical course.

At first only a high school education was required for entrance and a student holding an academic degree from a recognized institution could gain admission into the second year of medicine, provided the academic course of the senior year was equivalent to the first year medical course[4]. Beginning with the session of 1915-16 one year of premedical college work was added to the admission requirements. This requirement was raised to two years beginning with the session of 1918-19, and since the session of 1934-35 three years of college work, definitely high in quality, have been required for admission.

Each graduate has received the medical certificate from the University on the successful completion of the two years of study in basic medical education.

The first class, consisting of one person, was graduated in 1904. Since that year a class has been graduated each year with the exception of 1937. The failure to graduate a class in that year is attributable to the fact that in 1934 the School of Medicine lost recognition by the Council on Medical Education and Hospitals of the American Medical Association and was placed on probation by the Association of American Medical Colleges. As a result, an entering class was refused admission in the fall of 1935; but those second year students already enrolled were allowed to obtain the certificate in 1936. Later, in 1935, the school was given recognition by the Council on Medical Education and Hospitals of the American Medical Association, and with the approval of the Association of American Medical Colleges a beginning class was permitted to enroll in 1936, and was graduated in 1938. During this interval, many two-year schools of medicine and several four-year schools were on probation or were not recognized[5, 6].

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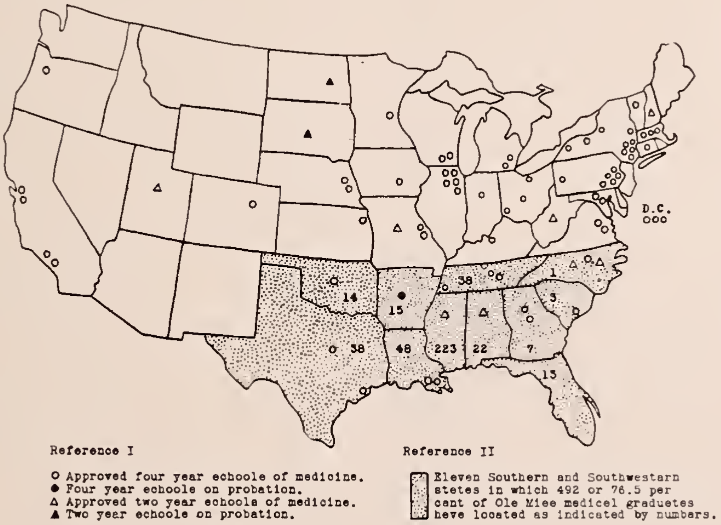
*Submitted for publication April 9, 1941.

†It must be understood that in a statistical study of this nature, where data has been collected over a long period of time, certain inaccuracies must be expected due to death and change of address, including the withdrawal of young physicians from active practice by the Selective Service Act. The author will appreciate having any gross errors brought to his attention.

The School of Medicine of the University of Mississippi has always endeavored to maintain a high standard and it was due to insufficient funds, as well as a general disturbance of higher education in Mississippi in the summer of 1930, that the school was finally placed on probation. Since 1935, with the combined efforts of the present chancellor, Dr. A. B. Butts, and the present dean of the School of Medicine, Dr. B. S. Guyton, and under the guidance of the accrediting associations, the school has undergone a complete reorganization. This reorganization affected its entrance requirements, budget, curriculum, faculty personnel, equipment, and physical plant. In November, 1937, the school was removed from probationary membership in the Association of American Medical Colleges, and in February, 1938, it was reinstated as a fully accredited School of Basic Medical Sciences by the Council on Medical Education and Hospitals of the American Medical Association. From all indications it will maintain this rating as long as any two-year school of medicine is recognized by these associations.

There are 10 Schools of Basic Medical Sciences and 67 recognized four-year schools of medicine in the United States[7]. One of the four-year schools has been on probation by the Council on Medical Education and Hospitals of the American Medical Association since December, 1938, and two of the Schools of Basic Medical Sciences have been on probation by the same Council since May, 1939. Two of these three schools are not members of the Association of American Medical Colleges[8]. Five of the remaining eight Schools of Basic Medical Sciences are located in states like Mississippi in which no other medical school exists. In Chart I (Reference I) is shown the geographical distribution and rating of the recognized medical schools in the United States[7].

CHART I


D.C.
14
38
15
48
223
22
7
15
1
3
38
Reference I
○ Approved four year schools of medicine.
● Four year schools on probation.
△ Approved two year schools of medicine.
▲ Two year schools on probation.
Reference II
Eleven Southern and Southwestern states in which 492 or 76.5 per cent of Ole Miss medical graduates have located as indicated by numbers.

Accumulated Data

The number of graduates by year and the total number of graduates holding the medical certificate from the School of Medicine of the University of Mississippi are shown in Table I.

TABLE I

Year	Graduates	Year	Graduates
1904	1	1924	29
1905	4	1925	33
1906	6	1926	29
1907	4	1927	30
1908	6	1928	32
1909	8	1929	24
1910	7	1930	28
1911	14	1931	27
1912	13	1932	26
1913	19	1933	23
1914	14	1934	19
1915	10	1935	29
1916	19	1936	19
1917	26	1937	0
1918	29	1938	14
1919	15	1939	19
1920	20	1940	23
1921	20		
1922	20		
1923	24	TOTAL	683

There are 20 candidates for the medical certificate in 1941 and 31 potential candidates for 1942. Five of the latter group are student assistants who will complete their three-year assistantships in 1942.

Of the 683 holders of the medical certificate from the School of Medicine of the University of Mississippi, 425, or 62.2 per cent, have also received an academic degree. It is gratifying to note the increase in the holders of academic degrees in recent years. Of the 308 persons who received the certificate through 1924, included in the original "Historical Record," 173, or 56.2 per cent also obtained such a degree, whereas, from 1925 to 1940 inclusive, 252, or 67.2 per cent, of the 375 recipients of a medical certificate have obtained an academic degree at the time of, or prior to, graduation. That this increase is ever becoming greater is exemplified by the fact that 19, or 95 per cent, of the 20 candidates for a medical certificate in 1941 have already received the B.A. or B.S. degree. Two of these students have both degrees.

The total number of holders of the medical certificate from the University of Mississippi may be divided into groups as shown in Table II, based on information relative to January 1, 1941.

TABLE II

1. Those engaged in active practice	551
2. Those still in school, interning, or in residency	61
3. Those temporarily not in practice because of prolonged illness	1
4. Those who discontinued the study of medicine after receiving the medical certificate and before entering active practice	15
5. Those retired or in other business after having engaged in active practice	4
6. Those whose death occurred while still in school or before being licensed to practice	8
7. Those whose death occurred after having engaged in active practice	29
8. Those about whom we have no information	8
TOTAL	683

If those holders of the medical certificate listed in items 4, 6, and 8 of Table II are eliminated from the total number, it is seen that 652, or 95.4 per cent, have obtained the M.D. degree or are candidates for the degree in some school offering the last two years of medical education. In this group are included two holders of the medical certificate who are classified in the AMERICAN MEDICAL DIRECTORY as not having the M.D. degree because "information received does not show graduation from a medical school[9]. But the mere fact that they are listed in the DIRECTORY as well as the ROSTER OF MISSISSIPPI PHYSICIANS shows that they are legally qualified physicians. Therefore, it is reasonable to assume that they succeeded in becoming licensed in Mississippi by examination without obtaining the M.D. degree. One of these men received his medical certificate in 1909, and the other in 1910. It was not until 1912 when Chapter 236 was amended to Section 3682 of the Code of 1906 that applicants for licensure in Mississippi were required to "hold a diploma from a reputable medical college"[10].

Ninety per cent of the total graduates have taken interneships in some institution after obtaining the M.D. degree. Almost all of those graduated in recent years have served interneships in approved hospitals, and quite a few have served a residency in some specialty in an approved institution.

Less than 2 per cent (including those persons listed in item 8 of Table II) have discontinued the study of medicine because of a failure to make satisfactory grades during the last two years of the study of medicine.

In Table III is shown the name and location of the various schools at which the 652 graduates of the University of Mississippi School of Medicine have obtained the M.D. degree or are still in school.

TABLE III

Name and Location of School	Transfers
Alabama	
xUniversity of Alabama School of Medicine	1
Arkansas	
University of Arkansas School of Medicine	8

Colorado	
University of Colorado School of Medicine	1
Georgia	
Emory University School of Medicine	36
zAtlanta College of Physicians and Surgeons	1
University of Georgia School of Medicine	2
Illinois	
zIllinois Medical College	1
Loyola University School of Medicine	2
Northwestern University School of Medicine	29
University of Chicago. Rush Medical College	12
University of Chicago, The School of Medicine	1
University of Illinois College of Medicine	8
Indiana	
Indiana University School of Medicine	1
Kentucky	
zKentucky School of Medicine	1
University of Louisville School of Medicine	22
Louisiana	
Louisiana State University School of Medicine	10
zNew Orleans School of Medicine	1
Tulane University of Louisiana School of Medicine	204
Maryland	
Johns Hopkins University School of Medicine	1
Massachusetts	
Harvard Medical School	1
Mississippi	
xUniversity of Mississippi School of Medicine	1
Missouri	
St. Louis University School of Medicine	4
Washington University School of Medicine	13
New York	
Columbia University College of Physicians and Surgeons	2
Cornell University School of Medicine	1
New York University College of Medicine	7
University of Buffalo School of Medicine	1
Oklahoma	
University of Oklahoma School of Medicine	1
Pennsylvania	
Jefferson Medical College of Philadelphia	22
Temple University School of Medicine	2
University of Pennsylvania School of Medicine	39
South Carolina	
Medical College of the State of South Carolina	1
Tennessee	
zCollege of Physicians and Surgeons, Memphis	1
zMemphis Hospital Medical College	2
University of Tennessee College of Medicine	121
Vanderbilt University School of Medicine	40
Texas	
Baylor University College of Medicine	3
Virginia	
Medical College of Virginia	3
University of Virginia Department of Medicine	43
Unknown	
The two holders of medical certificates previously referred to	2
TOTAL	652

Pending the successful completion of their work in the basic medical sciences, the candidates for the medical certificate in 1941 have been accepted for the last two years of medical education at the schools shown in Table IV.

TABLE IV

Name and Location of School	Transferring
District of Columbia	
George Washington University School of Medicine	2
Kentucky	
Tulane University of Louisiana School of Medicine	1
Louisiana	
Tulane University of Louisiana School of Medicine	6
Missouri	
Washington University School of Medicine	1
Pennsylvania	
University of Pennsylvania School of Medicine	1
Tennessee	
University of Tennessee College of Medicine	8
Vanderbilt University School of Medicine	1
TOTAL	20

The geographical distribution of the 551 certificate holders of the University of Mississippi School of Medicine now engaged in active practice is shown in Table V. This information was obtained from the AMERICAN MEDICAL DIRECTORY[9].

TABLE V

Location	Graduates
Alabama	22
Arizona	1
Arkansas	15
California	13
Colorado	4
Connecticut	1
Delaware	0
Dist. of Columbia	3
Florida	13
Georgia	7
Idaho	0
Illinois	9
Indiana	2
Iowa	0
Kansas	1
Kentucky	6
Louisiana	48
Maine	1
Maryland	3
Massachusetts	2
Michigan	0
Minnesota	1
Missouri	6
Mississippi	223
Montana	0
Nebraska	0
Nevada	1
New Hampshire	0
New Jersey	8
New Mexico	1
New York	27
North Carolina	1
North Dakota	0
Ohio	5
Oklahoma	14
Oregon	2
Pennsylvania	6
Rhode Island	0
South Carolina	3
South Dakota	0
Tennessee	38
Texas	38
Utah	0
Vermont	0
Virginia	6

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x The last two years of the study of medicine have been discontinued.

z Schools that are extinct, merged with other schools, or are not recognized.

Washington	3
West Virginia	4
Wisconsin	2
Wyoming	0
Hawaii	4
Puerto Rico	4
Cuba	1
Peru	2
TOTAL	551

Thus it can be seen that 223, or 40.5 per cent, of the 551 active graduates of the School of Medicine of the University of Mississippi have returned to this state to engage in practice, even though they spent two or more years in another state in obtaining their M.D. degree and interneship.*

On the other hand, 346, or 62.2 per cent, have located in Mississippi and its four adjoining states, Alabama, Arkansas, Louisiana, and Tennessee; and 492, or 76.5 per cent, have remained in eleven states making up a solid block of Southern and Southwestern states as shown in Chart I (Reference II).

The tendency for our graduates to return to Mississippi to practice medicine, or to remain in Southern states, has been increasing ever since the selection of applicants for admission to this school has been practically limited to *bona fide* citizens of this state.

According to the Roster of Mississippi Physicians, published by the Mississippi State Board of Health on July 15, 1940, there were 1,425 physicians in the state. At the same time the latest (sixteenth) edition of the American Medical Directory listed 1,497 physicians in Mississippi. This discrepancy is due to the fact that the Directory lists persons with the M.D. degree who, like a few of our faculty members and those that have retired from the practice of medicine in some other state in order to reside in our Gulf Coast resorts, are not licensed to practice in Mississippi. The Roster of January 1, 1941, lists 1,383 physicians in Mississippi.† This decrease of 42 physicians during the last six months of 1940 is due to death and change of address, including the withdrawal of young physicians from active practice by the recently enacted Selective Service Act.

The distribution by county of the 223 graduates of this school who are now practicing in Mississippi, as well as the total number of white and colored physicians per county[12], is shown in Table VI.

TABLE VI

Counties (82)	Ole Miss Alumni	Total Physicians White	Total Physicians Colored
Adams	7	20	2
Alcorn	4	20	0
Amite	3	14	0
Attala	3	11	0
Benton	0	5	0
Bolivar	5	39	2
Calhoun	4	14	0
Carroll	0	8	0
Chickasaw	4	13	1
Choctaw	0	7	0
Claiborne	2	6	2
Clarke	1	12	0
Clay	1	10	2
Coahoma	2	26	2
Copiah	2	14	0
Covington	1	5	0
DeSoto	0	12	0
Forrest	9	27	2
Franklin	0	4	0
George	0	6	0
Greene	0	3	0
Grenada	2	10	0
Hancock	1	6	0
Harrison	4	55	3
Hinds	28	128	5
Holmes	1	23	0
Humphreys	3	12	1
Issaquena	0	2	0
Itawamba	0	6	0
Jackson	1	15	0
Jasper	1	10	0
Jefferson	2	5	0
Jefferson Davis	0	7	0
Jones	4	31	3
Kemper	1	8	0
Lafayette	6	20	0
Lamar	0	6	0
Lauderdale	17	55	4
Lawrence	0	5	0
Leake	1	13	0
Lee	11	33	1
Leflore	4	38	2
Lincoln	6	15	1
Lowndes	2	24	2
Madison	2	12	2
Marion	1	14	1
Marshall	4	12	1
Monroe	3	22	1
Montgomery	1	10	0
Neshoba	1	12	0
Newton	3	16	0
Noxubee	1	11	0
Oktibbeha	1	11	1
Panola	0	16	0
Pearl River	1	13	0
Perry	2	7	0
Pike	6	26	0
Pontotoc	2	12	0
Prentiss	3	12	0
Quitman	4	12	0
Rankin	2	14	0
Scott	1	9	0

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*There are no approved hospitals in Mississippi for an interneship and there is only one approved institution for a residency. This is the Mississippi Sanatorium, which offers a combined residency in tuberculosis and thoracic surgery to one person for from one to three years[7, 11].

†The few deaths and changes of address occurring between January 1, 1941, and the time the ROSTER was actually published and mailed have not been deducted from the state number of 1,383 physicians.

Sharkey 2	11	0
Simpson 2	20	0
Smith 1	7	0
Stone 1	5	0
Sunflower 2	33	1
Tallahatchie 1	17	0
Tate 2	8	0
Tippah 1	7	0
Tishomingo 2	8	0
Tunica 3	10	0
Union 5	12	0
Walthall 0	7	0
Warren 6	40	3
Washington 2	32	4
Wayne 1	6	0
Webster 1	11	0
Wilkinson 4	6	0
Winston 0	13	0
Yalohusha 3	13	0
Yazoo 3	22	2
TOTALS 223	1,332	51

The 223 holders of the medical certificate from the University of Mississippi School of Medicine who are now practicing medicine in this state are located in 67, or 81.7 per cent, of the 82 counties in Mississippi; and make up 16.1 per cent of the 1,383 physicians listed in the ROSTER, as of January 1, 1941. However, there are 51 colored physicians and 63 inactive white physicians[9] included in the ROSTER. Thus, there are only 1,269 white physicians actually engaged in practice in Mississippi, of whom our graduates make up 17.5 per cent. This percentage is even greater if those white physicians are eliminated who were licensed to practice in this state before our graduates had an opportunity to return here to practice*.

In Table VII are shown the active and inactive white physicians licensed to practice medicine in Mississippi before 1907 and during 1907 or later, as well as the total number of colored physicians, as of January 1, 1941.**

Thus it can be seen that approximately one-third of the white physicians in Mississippi obtained their license to practice before any graduates of the University of Mississippi School of Medicine had an opportunity to return to this state. The 223 graduates of this school who are now practicing in Mississippi make up 26 per cent of the 855 actively practicing white physicians who were licensed in 1907 or later.

TABLE VII

White Physicians	Active	Inactive	Total
Licensed before 1907	414	36	450
Licensed in 1907 or later ..	855	27	882
	1,269	63	1,332
Colored Physicians			51
TOTAL			1,383

In a recent communication[13], Dr. Felix J. Underwood has presented further information concerning the tabulation of physicians in Mississippi, as of March 25, 1941. According to him there are only 1,367 physicians in Mississippi, and 126 of these are classified as inactive. The discrepancy between his figures and mine, regarding the number of inactive physicians, is attributable to the facts that his figures have been compiled a year later than those I have obtained from the DIRECTORY[9], that he has not excluded colored physicians from his totals, and that there is an apparent difference of opinion existing as to what constitutes activity and inactivity in medical practice.

However, it can be seen that where there were 1,425 physicians in Mississippi on July 15, 1940, there are only 1,367 physicians at the present time. This decrease of 58 physicians in Mississippi in less than nine months is due to death of physicians and the withdrawal of young physicians from active practice by the Selective Service Act.

All of the 1,241 active or partially active physicians are not available for the regular medical care of the 2,183,795 persons in Mississippi as 137 of these are institutional workers and 59 are full-time public health workers. The latter group practice preventive medicine only.

In an earlier communication[14], Dr. Underwood supplied the information that since 1913 the average number of physicians dying each year in Mississippi is 35 and the average age at the time of death is 62 years. Each year the State Board of Health usually licenses 25 physicians by examination and 25 by reciprocity. In the past, the number of newly licensed physicians each year has been sufficient to counteract the loss of those dying or moving out of the state; but, even so, there has been for a number of years a lack of physicians in Mississippi in relation to its surface area and increasing population. A lack which exists in spite of the fact that the "low of supply and demand" in relation to the assessed valuation of certain poorer counties has seemingly been fulfilled. Improved transportation facilities from rural to urban communities have not appreciably lessened the lack of physicians. On the other hand, it has placed an increased demand on urban physicians, leaving the really indigent rural person without adequate medical care. That this lack of physicians is apt to become ever greater is evidenced by the fact that the older physicians are aging and the younger physicians are being called into active duty by the Selective Service Act. The average age of physicians in Mississippi is 54 years, and a study of the age groups, as shown in Table VIII, reveals that a large number will soon become inactive because of age[14].

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*As stated before, the first class consisting of one person was graduated in 1904. This person, without serving interneship could have returned to Mississippi in 1906 at the earliest. Since he did not return, the dead-line of January 1, 1907, has been selected for this report.

**For obvious reasons the date of licensure has been selected for the dividing line in this report rather than the date of receiving the M.D. degree.

TABLE VIII

Age Groups	Physicians
20-29	65
30-39	231
40-49	163
50-59	386
60-69	407
70-79	128
80-89	32
90-99	2

Preventive medicine is reducing the incidence of diseases of childhood and the younger age groups of our general population, but not a great deal of progress has been made in the prevention of diseases of middle life and old age. Consequently, more young people are living to enter into the middle life and old age groups, and these are aging. Because of the increasing lack of physicians, quackery is flourishing among the uneducated class of people in this state due to the fact that suffering people are unable to obtain elsewhere relief from their illnesses. At the present time the Mississippi State Board of Health has records on file in its office of 300 "quacks" who are daily offering their services to the general public.

In this respect, it is interesting to know that midwives attended 25,669 births in Mississippi in 1939, of which 1,675 were *white* births. In the same year licensed physicians attended 26,490 births.

CONCLUSION

Quoting Dr. Underwood[14], "The situation with regard to medical care in Mississippi is alarming." A similar condition exists, more or less, throughout the Southern states. Since 40.5 per cent of the recipients of the medical certificate from the University of Mississippi School of Medicine have returned to Mississippi to practice, and 76.5 per cent have remained in the South, and since the tendency to return to Mississippi or remain in the South is increasing, there is every indication that the School of Medicine of the University of Mississippi should be maintained, and possibly expanded. Young people should be encouraged to study medicine, and those in good faith should be allowed to pursue their study without interruption by the Selective Service Act. Adequate hospital interneships should be available within the state to encourage the return of Mississippi students regardless of whether or not they are certificate holders of the University of Mississippi School of Medicine.

Unless some such provisions are made the population of Mississippi must, of necessity, be without proper medical care.

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The Future Plans for Hospital Development in Mississippi*

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I FELT very greatly complimented by the chairman of your program committee when he invited me to appear before you and present for your consideration my views on a subject of such vast importance to the people as "The Future Plans for Hospital Development in Mississippi."

The premise for a proper presentation of this subject, however, must be based upon past experience in this field, if we are to arrive at an intelligent conclusion in determining the future needs.

I will, therefore, first direct your attention to some of the more notable of these, so that you, as social workers, interested in public health, may know what obstacles have been overcome and you then may better anticipate those that might arise as a hindrance to further progress. We in Mississippi are just emerging from a period that future historians will doubtless record as the Hospital Era. In 1920, we only had about eighteen hospitals. Soon after that a construction program was inaugurated throughout the state, which has continued until we now have sixty-eight very satisfactorily equipped general hospitals with a total capacity of about two thousand beds. This program of expansion was stimulated largely by the advancement that was being made in medical and surgical knowledge. Young men were coming out of the medical schools better trained for hospital practice, surgical and medical procedures were becoming more standardized. Another factor was the improvement in our system of highways, better facilities for traveling over them, together with the fact that the public was beginning to realize the convenience and economic importance of having these facilities nearer home.

Another quite interesting observation also was the tremendous change that took place during this period in the public's attitude toward hospitals. In the early days of hospital development (and not so far removed that most of us do not remember) it required all the persuasive power of relatives, friends, and the family doctor to get a patient to go to a hospital, and usually by the time he was convinced of the necessity of such an important move he was ready to die, and all too often did, soon after admission. On the contrary, today people frequently go to the hospital and summon their physician after they arrive. They are also further recognizing the fact that hospitals are indispensable assets to the various communities which they serve, and, like the schools and churches, meet a separate, distinct and equally as important a requirement in our civic affairs.

Another observation of importance is the geographic distribution of these institutions. It is about as satisfactory as if it had been previously planned, for those counties which do not afford hospital facilities are adjacent to one that does, DeSoto being the only exception. The availability of this service to our citizens (more than 90% live within thirty miles of a hospital) was not in every case an advantage to the hospital, for along with the private, or pay-patient, came the indigent too, many of them acutely in need of immediate attention. Anxious to serve, willing to go to the limit of their resources to meet the emergencies (for these were mostly home people, hard to turn away), these hospitals struggled along with this handicap throughout the 20's, with only a few of those in the more remote sections of the state succeeding in getting the legislature to accept some responsibility by providing small appropriations to be paid to them on a monthly basis. This was a simple contribution out of sympathy for the cause.

With the onset of the depression in the early 30's (meanwhile our hospitals had been growing not only in service but in numbers) the charity situation all over the state became so acute that the attention of the leaders of the State Medical Association and State Hospital Association were directed to it. Realizing after a thorough study and full investigation of the matter that the policy of the legislature for the hospitalization of the indigents in the five state-operated hospitals located in Vicksburg, Jackson, Meridian, Laurel and Natchez was too restricted, and that there must be a more general distribution of funds if hospital progress was to continue, a committee was appointed composed of members of each of these two organizations to work out a plan and formulate a bill with this in view. Much effort was expended upon this program but all that was accomplished at first was a tacit acceptance of the responsibility by an appropriation of specified amounts on a monthly basis to a larger number of hospitals. This unquestionably was a tremendous help during that emergency. With the convening of the legislature in 1936, this committee, to which I have just referred, opposed the adoption of this as a definite policy of the state, for the reason that it would ultimately throw them into a political scramble for funds each time the legislature met, with the result that those hospitals with the strongest influence would most likely secure the largest appropriations. Finally there was passed at this session the bill that was originally advocated and has since been known as the State Aid Hospital Law. This law is in effect an appropriation on a per capita basis to each county for the hospitalization of certified indigents.

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*Read before the Conference of Social Workers, Jackson, Miss., April 3, 1941.

I have given you the history of this legislation because any plan for the future development of our hospitals depends upon two fundamental facts: first, an approved standard of efficiency must be maintained; and, second, hospitals can absorb the losses common to any other business enterprise, but they should and must be relieved of the indigent load.

Since the enactment of this law five years ago, hospitals, and I refer particularly to the small hospitals in the rural sections of Mississippi, of forty beds or less, of which we have about fifty, have made more progress in raising their standards than in all the other years in their history. It is an indisputable fact that the indigent stand as a constant threat to the efficiency and proper maintenance of approved standards in these hospitals.

The House Hospital Investigating Committee, recently appointed by the governor to review and study the whole plan of state aid for indigents, has under consideration at present three plans, from the study of which they propose to formulate a plan to be recommended to the legislature as a permanent state policy:

First, discontinue all state aid appropriations and turn back the present five state-owned and state-operated hospitals to the cities or counties in which they are located, and build one hospital in Jackson to meet the needs of the entire state.

Second, to continue the present plan and revert the five state-operated hospitals to the counties or cities in which they are located and let them share in the state aid funds just as the other hospitals do, and in addition receive such funds as may be appropriated by the city and county.

Third, to continue the present plan, to be supplemented by a hospital here in Jackson for the care of specialized cases.

Each of these plans has its advantages and disadvantages, its proponents and opponents, like all legislative matters. There is no escape from the fact that should the state deprive these institutions of this fund a number of them will be forced to close, the efficiency of the remainder seriously hurt, depriving the people, both pay and indigent, of the quality of services they are now receiving. It will be equivalent to closing the door to any future development in hospitalization in those communities. We also know that about 85% to 95% of the indigent can best be served by the hospitals nearest their homes, and that this remaining five to fifteen per cent are usually cases requiring a highly specialized service unavailable to the indigent at present. I refer particularly to those advanced cases of cancer, of which we are seeing ever increasing numbers needing radium (the state owns none), and x-ray therapy (the state does not own a machine for that), also patients needing certain other specialized services such as highly technical orthopaedic, brain and neurological surgery, bronchoscopic technique and other services of a similar special character that could best be handled by a central hospital located here in Jackson, where a staff of specialists to do this kind of work could be provided.

The present State Aid Hospital Law is not an accidental act of the legislature, but a result of many years of study and investigation by a number of men both in the legislature and out, who understood the need, and who were conscientiously trying to meet the need:

(1) This law is generally popular with the masses of the people.

(2) It is fair and equable for each county re-

ceives funds on exactly the same basis.

(3) It is convenient. Hospitalization is available at home among families and friends.

(4) It is economical:
  (a) The most of transportation for great distances, which someone (usually the taxpayer) must pay, is eliminated.
  (b) Under this plan the state has no liability whatsoever for repairs and replacements on buildings and equipment.
  (c) The state pays $2.50 per day (plus operating room charges in surgical cases) and by doing so not only discharges an obligation for indigents' care, but indirectly makes a contribution toward the maintenance of hospital standards from which all the people profit.

In hospital operation and maintenance there is an inescapable overhead and so-called "readiness-to-service" cost, which constitutes around 80% of the total cost of operation, and continues without much change, regardless of occupancy or whether income be high or low. The occupancy of Mississippi hospitals since 1936 has increased about 25%, due in part directly to the State Aid Law, and in part, indirectly by its influence in making people generally and in the remote sections especially, more hospital conscious. It is hoped by those who have given the matter very careful study that this will ultimately prove to be the permanent policy of the legislature for the care of the indigent.

This problem then being on the way to solution, it will permit those interested in hospital progress to direct their attention to the bringing of this service to more people who need it, especially to those in the low income group who are not eligible for charity, and will improve Mississippi's comparative standing in hospital patronage. Our people are utilizing hospital facilities less than the people in any other state in the Union. Even with indigent aid, practically half our hospital beds are unoccupied, and it is not because we have overbuilt, for we have only one bed to each thousand population (this is about the average of the whole country), but this situation is due to two factors: first, lack of education and information by a large part of the population as to the advantages of hospital service; and, second, and most important, of course, a high percentage of our population is in the low income group and cannot afford to pay for it except as a matter of emergency. It is the opinion of those familiar with the subject that if this situation is ever to be corrected, it will come first through education of the people to the advantages offered by hospital insurance. This form of insurance is slowly but surely attaining a place of importance in our economic structure. A very great deal has been learned about rates, the incidence of hospitalization by days in a given population, the margin of safety, the selling cost, and the companies with this accumulated experience will soon be able to standardize their rates for the benefits offered, just as the life and fire insurance companies have standardized theirs. In due time it should and will undoubtedly be more generally held.

A great deal is being said from time to time about the high cost of hospitalization as a reason why this service is not more generally used, in spite of the fact that the margin of profit of the most efficiently run hospital in this country is exceedingly low. To those familiar with these facts the reasons are perfectly obvious. In these institutions you not only get room service (frequently superior to any hotel in the locality) but in addition general nursing care, certain medicines, dressings, in some cases the service of a dietician, and other services, all of which are included in the price of the room. Hospital equipment is costly, replacements must be frequent, for much of it becomes obsolete within a very few years. So when you take into consideration housing facilities, fireproof buildings, central heating plants, in some air-conditioning, the room with specially designed furniture, specially constructed beds, the multitude of comforts and conveniences offered, it is probably the cheapest service the public gets anywhere, and the cost will not be reduced as long as the demand is for the kind of hospitals we have, but on the contrary, in the future just as in the past, it will slowly rise.

We all agree that the benefits people derive from preventive medicine are priceless, and that no money has ever been spent that paid to the people a higher dividend, but I would like to remind you that the contribution hospitals make to preventive medicine every day is absolutely beyond estimate.

In the past several years, through news items appearing in the press, and both professional and lay periodicals, we have been reminded of the shortage of physicians in the state of Mississippi. An analysis of this situation is quite disturbing, for during the past year a tabulation was made on the ages of Mississippi doctors and some very astonishing facts were revealed: viz., that there are 1,425 doctors in Mississippi; that two-thirds of these are 50 years old or older; that there are only 300 in the state under 40 years of age. It is therefore very evident that young men are not locating in the state fast enough to replace those who because of age or other disabilities, are being forced to limit their professional activities. This is due primarily to the fact that these men, after spending $7,500.00 to $10,000.00 on a medical education, and having been trained in the use of modern diagnostic and therapeutic equipment, are unwilling to locate in areas where the use of these facilities are denied to them. They do not wish, in fact do not know how, to practice medicine and surgery as it was done in the "horse-and-buggy" days. Assuredly, we do not wish to lower the standard of medical education. On the contrary, we should seek and plan to develop our hospitals, especially those in the rural sections, to as high a degree of efficiency as possible. These institutions would thus form a nucleus for the development of acceptable medical centers, and young men would be attracted to them as the demand grows for their services. With the vast majority of our population within an hour's travel to these facilities, certainly few if any of our people would suffer for the lack of them. Hospitals provide diagnostic facilities available to all the people, they tend to develop specialists, in fact they are laboratories out of which come most of the refinements in the diagnosis and prevention of disease. Every patient who is admitted to a hospital makes a contribution toward the improvement of medical service all the people in that town or city receive.

So in conclusion, I would like to say to you that the future of our hospitals depends upon several factors:

1. They need more favorable legislation to protect them against unnecessary losses from certain types of patients, particularly automobile accident cases. Mississippi hospitals sustained an unnecessary loss of about $25,000.00 in 1940 on this class of patients alone, and this figure grows by the year.

2. They need encouragement by you and others for more general use of hospital insurance, which is needed greatly by those in the low income group who are not eligible for charity.

3. They need enactment, when time and experience justify, of a bill authorizing a Hospital Licensing Board, with the authority to designate what is and what is not a hospital, and to correct unethical and irregular practices which sometimes occur.

4. They need continuation of the State Aid Law with more authority given the Hospital Commission to correct certain abuses and irregularities that naturally creep into any indignent legislation, supplemented when the state can afford it by a hospital in Jackson to take care of certain specialized cases.

Sulfanilamide; Some Surgical Uses with a Case Report*

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JACKSON, MISS.

INTRODUCTION

IT IS THE purpose of this presentation to attempt to show you some of the uses of sulfanilamide in surgical conditions as an *adjunct* to the rational surgical treatment. We must first assume in the discussion of this aid to surgical treatment that the trained surgical background is present and that surgical judgment was, is and will be exercised in all cases before this aid is applied. This drug is certainly not a cure-all but may prove in many instances, when used rationally, to mean the mortality may be lessened and the morbidity decreased.

HISTORY

I wish to call your attention to the work of

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*Read before the Mississippi Chapter of the American College of Surgeons, Edgewater Gulf Hotel, Gulfport, Mississippi, January 31, 1941.

Jensen et al[1], Key et al[2, 9, 12], Davis[3], Russell and Falconer[4], Colebrook[5], Dees[6], Long[7], Frankel and Buford[9], Campbell and Smith[10], Mayo and Miller[11], Casberg[13], and Long and Dees[8], (article to appear in SURGERY). These authors have used these articles for details of treatment. I shall deem it only necessary to say that the drug may be buried in the tissues of the body without complications and that the rates of absorption are fairly uniform in certain conditions. Cyanosis is noted often when large doses of the drug are used in this manner when none is taken orally.

The discussion in this article will be confined to the use of the crystals locally, both as a prophylactic and as a method of treatment. More details of its use will be found in the articles published to which your attention has been called.

USES

I shall call your attention to the types of cases in which we have found the local use of the drug as a very successful aid in the treatment of these cases.

TYPES OF CASES IN WHICH SULFANILAMIDE WAS USED

	Total Cases	Deaths
1. Peritoneal Cavity Application—		
a. General peritonitis with ruptured appendix	28	1
b. Local peritonitis in acute appendicitis	8	0
c. Acute appendicitis with appendiceal exudate	11	0
d. Pelvic disease	14	0
e. Appendiceal abscess	2	0
f. Local peritonitis with gangrenous gall bladder	1	0
g. Chronic cholecystitis with stones	3	0
h. Cholelithiasis and choledocholithiasis	2	0
i. Stab wound abdomen (perforated liver)	1	0
2. Bone and Joint Application—		
a. Compound fracture	8	0
b. Osteotomy	2	0
c. Bone cyst	1	0
d. Acute pyogenic arthritis	2	0
3. Subcutaneous Application—		
a. Radical breast amputation (infected)	1	0
b. Draining pilonidal cysts	2	0
c. Furunculosis	4	0
d. Carbunculosis	2	0
e. Ludwig's angina	1	0
f. Prophylactic use in incisions potentially infected	26	0
Mortality	119	1

Morbidity—Markedly Decreased.

RATE OF ABSORPTION

In blood serum studies carried out by the same technician with the same technique we have found the rate to vary with the absorptive surface. The normal peritoneum absorbs slowly, the inflamed peritoneum very rapidly, abscess cavities slowly, large macerated wounds and fractures rapidly. We have noted pyrexia is caused by the drug as proved by administering the drug orally and producing it repeatedly.

RATE OF ABSORPTION OF SULFANILAMIDE CRYSTALS

Site of Implantation	Amount Used	Serum Concentration in Mgms. Per Cent on P. O. Days					
		1	2	3	4	5	6
Subcutaneous (large area)	30 gms.	6	7	9	3	1	.06
Normal peritoneum	15 gms.	12.5	9	7	3	1	.05
Inflamed peritoneum (General)	15 gms.	15	10	6	4	2	.60
Inflamed peritoneum (local)	15 gms.	12	9	8	4	2	.72
Appendiceal or pelvic abscess	15 gms.	2	1.5	.5	.3	.06	0
Compound fractures	15 gms.	7	5	3	1	.5	.06

ANALYSIS OF INFECTIONS IN CLEAN SURGICAL WOUNDS

Group	Number Operations	Number Infections	Percentage Infections	Organism Infecting
Sulfanilamide Implantation	18	0	0	
				1. Strep. hemolyt.
Control A	19	2	10.5	
				1. Staph. Aureus 2. Staph. Aureus
Control B	25	3	12	
				1. Strep. hemolyt.

Used 6-8 Grams of Crystals in Subcutaneous Tissue.
Melvin A. Casberg, St. Louis, Missouri.

PERITONEAL APPLICATION WITH CASE REPORT

I wish to state we are very confirmed in our opinions on the use of the drug in the peritoneal cavity, both as a prophylactic and a method of treatment. The latter procedure, I would like to speak about briefly. We use the powder from a fresh stock bottle, sterilize the lip of the bottle with alcohol and pour the powder into a sterile medicine cup, and by repeatedly weighing the drug in the cup, we know the approximate level the powder reaches when it weighs 5 gms. We use from 15 to 50 gms. in the peritoneal cavity. Formerly we autoclaved the drug, but often it was dissolved, turned brown, or was changed chemically and now we have adopted this method. However, Key[12] has found that bacteria will grow in culture media with the crystals embedded. No streptococcus will grow. We do not drain these cases but sew them up tight. We have had no complications. The only death was in a case in which we let our enthusiasm for the use of the method overweigh our surgical judgment—a patient who had multiple liver, kidney and lung abscesses at the time of the operation. We have had two cases with prolonged fever which cleared up in 16 and 12 days respectively, which we felt might be due to localizing or encysting of the drug in the peritoneal cavity in mass, but were unable to prove this.

The following case is most extraordinary to us and I present it for your information.

CASE REPORT

Mrs. P. White female. Age 28. Para - 1. Eight months pregnant, admitted 10 A.M. with pain in the abdomen which was generalized and began the night prior to her admission, accompanied by nausea and vomiting, rhythmical in nature and progressively more severe, with fever. On admission temperature was 98.8, pulse 108, blood pressure 160/80. Positive findings were: abdomen enlarged to size of an eight months' pregnancy, generalized rigidity with intense pain throughout. No vaginal examination.

Laboratory findings:

Red blood count 3,100,00.
White blood count 19,400.
Lymphocytes 18%.
Urine—1.014 specific gravity.
Sugar—negative.
Wassermann—negative.
Hemoglobin 62%.
Diff. count—80% polys.
Monocytes 2%.
Albumen one plus.
Diacetic acid 4 plus.

We were of the opinion that this was a case of utero-placental apoplexy and under ether anesthesia opened her abdomen in the mid-line for a Caesarean section. On opening the abdomen we found about 250 cc. of purulent fluid. In the right lower quadrant was a perforated appendix, blown out at the base with a fecalith about one-fourth inch in diameter lying free. The appendix was ligated and removed. The fluid was aspirated and 50 gm. of sulfanilamide crystals poured into the peritoneal cavity and the abdomen closed tightly without drainage and using the crystals in the suture lines. Some cyanosis developed in four hours. At 4:00 A.M. she was delivered by episiotomy and forceps of a blue baby which was hard to resuscitate and lived only 48 hours.

Culture of the peritoneal fluid showed gram negative cocci and bacilli.

The sulfanilamide content of the serum of the mother and baby at delivery was 22 mgm. per cent and at 9:00 A.M. it was 18 mgm. per cent taken on the mother only.

This patient had morphine, heat tent to abdomen, stomach catheter without suction drainage, fluids in vein and none by mouth, and at no time did the temperature rise above 102.4 degrees and on the sixth postoperative day was normal. The third day postoperative she was able to take water and progressively improved as is shown by the clinical chart.

We believe this to be a rather unusual case of peritonitis with pregnancy.

CONCLUSION

1. We believe strongly in the use of sulfanilamide powder extraorally by local implantation as an aid to surgical treatment.
2. Attention is called to the previous work done.
3. The rate of absorption seems to be dependent on the vascularity of the part.
4. No complications of serious importance have been noted following its use.
5. An unusual case report is presented.
6. When used in peritoneal cavity it must be used in layers sutured as well.
7. Again I wish to emphasize the drug merely as an adjunct to good surgical treatment instituted at the proper time.

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Mississippi's Present Hospital Set-Up*

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IN DISCUSSING Mississippi's present hospital set-up we begin with the following general observations: In 1938 there were 6,166 hospitals in the United States with a total bed capacity of 1,161,380 beds. Of these 1,728 were governmental hospitals with a bed capacity of 815,136 beds. Beds for nervous diseases amounted to 591,822 with a ninety-five per cent occupancy, but at the same time mental and nervous disease cases constituted only 2.1% of all patients admitted to hospitals. And in 1938 there were only three million people, about one and one-half per cent of our total population, who were over thirty miles from a hospital, according to survey by the American Medical Association. At this time 68.9 per cent of the beds in general hospitals were occupied. Mississippi has the lowest number of general hospital beds of any state in the Union—1.4 per thousand population, with only .7 of one bed per thousand for the negroes. The negroes constitute a little more than half of our population and the annual death rate for the negroes of the United States is about four more per thousand than for the whites.

Mississippi has about one hundred hospitals fairly well distributed. Of our 82 counties we believe there is only one that does not have a hospital or borders on one that does. Nevada has the highest number of general hospital beds per thousand of any state in the Union, 6.2 per thousand. Nevada with an area about twice that of Mississippi has only 13 general hospitals, and has a population of less than a hundred thousand, less than one per cent negroes. It has the highest death rate from appendicitis of any state in the Union, also the highest for alcoholism and suicides. Total general hospital beds in Mississipi are now a little less than four thousand, accommodating about seventy-five thousand patients per year, and utilizing fifty-four per cent of their beds as compared with seventy per cent occupancy for the nation at large.

Mississippi now has about fifteen per cent less doctors than it had fifty-five years ago, although its population has virtually doubled. Forty-two per cent of the doctors in Mississippi are now past sixty years of age. The ratio of population to doctors in Mississippi is nearly double what it is in the United States as a whole—about eight hundred to one for the Nation and about fifteen hundred to one in Mississippi.

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*Read before the Conference of Social Workers, Jackson, Miss., April 3, 1941.

Our Southeastern group of states are producing about double the number of babies that the Northeast is producing proportionately to population. The Southern section has furnished about four million men and women to the North and West within the last forty years to carry on commerce, to plead the law and preach the Gospel and practice the medicine. The purest Anglo-Saxon blood is to be found in this section, which is the arsenal for man-power of the nation and the hope of democratic leadership for the world.

Mississippi has five state-owned and supported hospitals for the indigent, located in Meridian, Jackson, Vicksburg, Natchez and Laurel. It seems that there are only two other state-owned charity hospitals in the United States. Taking the five hospitals together, 35 per cent of the patients treated in each hospital come from the county in which the hospital is located, 35 per cent from adjoining counties and the other 30 per cent from all the others. These five hospitals are averaging about 1000 bed patients per month, about twelve thousand per year. A very conservative estimate of what is and has been invested in these hospitals would be a half million dollars. The interest on this at six per cent is $30.000 per year; the annual upkeep is no doubt near the same amount. During the period 1935 to 1937 seventy-six counties sent patients to the charity hospital in Jackson, twenty-nine counties sent patients to the Natchez Hospital during the two-year period, two counties had no patients in any of the five state hospitals, three counties sent one, and 19 counties sent from one to ten. For 1940-42, $327,500 are set up for the five state charity hospitals, while $650,000 are appropriated for the private hospitals.

The per capita distribution of funds for the indigent is under the State Hospital Commission which has approved fifty-four of these hospitals to receive aid from the state on a cost basis, two dollars and fifty cents per day. Each patient who is admitted to one of the approved hospitals must submit a certificate signed by a registered physician and two reputable citizens saying he is unable to pay; and his credentials must be passed on by a board of trustees appointed by the governor. During the biennium 1937-1939, 16,065 indigent patients were cared for under this plan; 8,032 per year, or about two-thirds the number were treated in the five state charity hospitals. The death rate for all patients was six per cent. It is estimated that the surgery done by the hospital staffs gratis amounted to about one million dollars during the two-year period, and for medical services about one quarter million. At the regular rate the hospital and medical service would have cost more than three times what was paid for it. The annual expense of administration of the funds to the private hospitals seemed to be about $4,500 per year.

Mississippi has one of the best equipped hospitals in the country for the treatment of tuberculosis. The extension work in the form of diagnostic clinics and the surgery at the hospital are outstanding. Mississippi has unusually good equipment for mental cases, also.

Our state is unable to offer an accredited internship. However, an internship might help to keep some of our young graduates in medicine in our state.

We really have a dual system of treating the indigent. We would be the last one to favor less medical service for any town or community, but the plan we have advocated for many years is to have one central hospital of moderate size and reasonable equipment as a kind of clearing house for certain cases. We believe the county in which it is located should contribute liberally to its construction and support. The cities in which the state charity hospitals are located should each decide by a conference of the medical profession, heads of hospitals, town and county boards, whether they shall treat the indigent sick in the present hospitals, or whether they shall be taken care of by the private hospitals. If they decide to keep the charity hospital, they should share in the per capita distribution of funds the same as any other, and the town and county should be permitted to supplement the funds if they think it advisable. In order to maintain an acceptable standard, all funds for treating the indigent, as far as the state is concerned, should be distributed on a per capita basis, unless they be for a central hospital, and there should be no zoning of any hospital. Hospitals that solicit the indigent should be dropped from the accredited list.

Mississippi has already made the greatest advancement of any state in the Union, or any spot on earth for democratic medicine. The small hospital is the greatest means by which we can carry modern medicine to the masses at a reasonable cost and continue to hold sacred the relation between the patient and the doctor. Here is what a representative of the American Medical Association said, after he made a hospital survey of our state set-up:

"1. It is a simple method of distribution.

"2. It is much more equitable than distribution according to beds in any given district or taxes received.

"3. It has resulted in the ability of small hospitals to give care to medical indigents, not alone as long as the funds lasted but throughout the year. We found a remarkable few—only three or four—throughout the whole state that did not give essentially the same care throughout the year as they gave during the time the funds were available.

"4. Another result of this, it seems, has been to make the people more hospital conscious than they were a few years ago. As the understanding and more demands of people for hospital care develop, the hospitals can and will develop in like degree.

"5. In view of the fact that the population of Mississippi is spread out, and there is only one large city in this state, it is hard for me to conceive of a more equitable method. This has made all sections of Mississippi feel that they are getting a square deal. There was no reaction toward this like the reaction toward charity hospitals; that is, it was practically impossible for an indigent patient from Northern Mississippi to get in a charity hospital, or so difficult for those in the Gulf Coast area to get in that they found it much wiser to go to New Orleans, and give a fake address in order to get in the charity hospital there.

"6. Another advantage of this is that it in no way places any person between the doctor and his patient."

Adequate medical care for the masses is one of the nation's major problems. We need to raise our total health strength. The proper distribution of adequate hospital beds is imperative as a rational means by which to convey this service to all the people.

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MEDICAL STUDENTS AND THE SELECTIVE SERVICE SYSTEM

The law as written creating the Selective Service System was patterned so that the defects of the draft of the first World War would be eliminated. For that reason no shipbuilders, students, or any other *class* would be exempt. It is so written that necessary men in any community will be deferred, but for not longer than six months at any one time. Deferments may be repeated as long as that status remains in regard to that individual. The unit of the Selective Service System is the local board and its attached personnel, with 3000 to 5000 registrants usually. This then makes it a democratic type of organization with local self government, and with very few rules and laws that are applicable to all local boards. The situation in one community may be entirely different in another, so that the ruling of one local board may be the exact opposite to another.

There is a necessity for a constant graduation into practice of medical students, as evidenced by the fact that there is a severe need now for approximately 10,000 physicians in the United States with the graduation of only 5000 in June. This leaves the Army, Navy, Public Health Service, and the *civilian population* in need of approximately 5000 doctors this summer with no prospect of obtaining them until June of 1942. The burden of the shortage probably will fall on the civilian population in the greatest majority. A medical student is not fit for Army duty, Navy duty, or any other duties requiring a physician until he has completed one year of internship. Therefore, it is wise that all medical students and those who have been accepted for the freshman class this fall make their requests for deferment into Class II-A. This request must be made to the local board in which the medical student is registered. If this request is not granted, he should make an appeal within the five-day period granted for this purpose. The requests should be carefully prepared, with all information that can be secured from the school authorities. In Mississippi Dr. Guyton, dean of the Medical School at the University, is the person to contact in regard to this matter if your residence is in Mississippi or you attend the Medical School in Mississippi. Since this deferment can be given only for a maximum of six months, the medical student should be cautious and make application for deferment and appeal, if necessary, as often as this period elapses. Selective Service Form 42 should be used, and in addition thereto any other pertinent information that the dean of the Medical School feels is applicable. As State Medical Officer for the Selective Service in Mississippi, I shall be glad of the opportunity to assist any medical student who is making satisfactory progress in school.

Senior medical students should make application to Colonel James E. Baylis, Surgeon, Fourth Corps Area, Atlanta, Georgia, for a commission in the Officers Reserve Corps, Medical. Then, on completion of his senior year and passing the physical examination, he will be placed in a pool by the Surgeon General of the Army and held with his Reserve Commission status until he has completed his first year's internship. When this is done, he will be given his year of training in the Army or Navy services as an aid to our National Defense at the time of his maximum usefulness. At no time will any medical student or any one else ask for or expect *exemption* from training for our national defense at such a critical time as we are now meeting. But as an aid to meet our crisis and crying need for fulfilment of the shortage of physicians, we expect everyone to serve at the time that his internship is completed, even though some may desire to pursue their course of residency and higher training in some specialty. The opportunity will present itself for the continuation of this work after the crisis has passed. Therefore, all young, physically able senior medical students, internes and residents should take heed and govern themselves accordingly.

It is urged that all medical faculties in our great state of Mississippi offer their quarters and personnel to the local boards and the director of the Selective Service in Mississippi, in order that a more complete and careful examination of the selectees may be carried out. The spirit of coöperation is one of the fundamentals of our great spirit of democracy which must live on forever.

—Lawrence W. Long.

FROM THE PRESIDENT

The president of the Mississippi State Medical Association deeply appreciates the many courtesies extended him during the past year by the individual doctors and the medical societies of the state. On account of illness we got off to a late start last spring and summer, but we have done our best to make up for the delay. It has not only been a genuine pleasure to visit the different societies and to meet and to know the individual doctors better, but we count it the most profitable experience we have ever had. It has been a great inspiration to see the doctors forging to the front and giving themselves unselfishly in service to their people. It has been profitable to drink from the knowledge and wisdom of men who are willing to be all things to all men, in order that they may be of some service to even a few. From every man with whom we had time to converse we obtained an idea and enjoyed refreshing draughts of individual human philosophy. The efficiency average of doctors in Mississippi is high. They are fine students, able in native ability, and very resourceful. We shall not forget their kindness and friendly handshake. We have been impressed by their value as citizens in their communities, their keen interest in world affairs, and their unquestionable patriotism.

We are most grateful to the Woman's Auxiliary, led by its president and president-elect, Mrs. E. C. Parker, of Gulfport, and Mrs. W. K. Stowers, of Natchez, which has helped us broaden the base of medical practice and at the same time carry helpful information to the public.

We think you will be well pleased with the scientific program arranged for the meeting in Biloxi on May 13, 14 and 15. We trust that every doctor will attend who possibly can and carry with him his wife, who is rapidly becoming more and more indispensable to the profession. You will note that we have arranged for a public night on May 14, in addition to the regular president's night to which the laity is always welcome.

We wish to extend a most cordial welcome to the doctors at Camp Shelby to attend our meeting. The camp doctors are represented on our program and they are thrice welcome to attend the coming session of our association.

We also want to assure the doctors of adjoining states and the mid-South that each and everyone will be most welcome at Biloxi on May 13, 14 and 15.

Yours very gratefully,
W. H. Anderson, President,
Mississippi State Medical Association.

We graciously welcome the John Wyeth Company into the fold of our advertisers.

The ninety-second session of the American Medical Association will convene June 2-6, 1941, in Cleveland, Ohio. Every person who can should attend the A. M. A., especially this year. The A. M. A. is the organization through which we must handle our big medical problems. Our local and state societies and the A. M. A. are the organizations through which we travel to service for our people and for security for ourselves. The scientific program is always good, and Cleveland is a fine place in which to meet.

Thanks to the General Electric for being with us in our special state issue.

The extension work from Tulane sponsored by our medical association, by Tulane and by the Commonwealth Foundation is at present on internal medicine. These lectures are very fine. With doctors on the decrease in our state, with the incomes of many on the decline, and with the demands of the people for the latest in medicine growing stronger each day, it is most fitting that this medical instruction be carried out to the busy doctor at a minimum cost. The doctors deserve it and the people in turn are benefited by it. The present plan is a great improvement in that the doctor giving the lectures remains in the territory during the week so that he is available each day for consultation. He will see the patient with the doctor at the home of the patient or in the office of the doctor. This plan gives immediate aid to the doctor and benefit to the people and in turn will help the school from which the instructor comes. He will see and understand what the doctor in the small town and rural community has to meet and students in future classes will no doubt be taught to meet conditions out on the firing lines of medicine much better than they have been in the past. We believe this work should be continued if at all possible.

Please note the list of exhibitors in the journal, both scientific and commercial. You can learn much from both of them. Visit their booths and express your appreciation. The scientific exhibit is a fine way in which to teach. The commercial exhibitor has his vision of service also. He is helping us to go forward with scientific medicine. Without the commercial exhibitor it would be unlikely that we could have the advantage of our scientific papers in print. This journal has always tried to be coöperative with the exhibitors and considerate of them.

You will note the Borden Company is with our advertisers now. Mississippians should be especially interested in its products. The first can of evaporated milk ever canned was put up in a barn in Amite County by Gail Borden, who afterwards became the owner and the promoter of the Borden Milk Plant in New York. The first patent ever granted for canned milk by the patent office in Washington was granted to Mr. Borden, but it took him three years with several lawyers and a heavy expense to convince the office that he had a worthy process. The office first turned it down because it was "neither useful nor entertaining." The patent was granted in 1856. Now, think of the part canned milk is playing in human food. Mississippi doctors should surely feel a special interest in the Borden Company.

The Mississipi State Hospital Association will hold its annual session on May 12 and so will the State Pediatric Society convene on this date. Dr. E. R. Nobles, of Rosedale, is president of the hospital organization and the progressive young Dr. Harvey Garrison, Jr., heads the state pediatricians.

We appreciate our advertisers. Everything else being equal, we shall appreciate your trading with the firms who advertise with us. We feel like their medicine will taste a little better and have a little better effect on the sick patient.

"The appropriation for charity patients in the state should be larger and facilities should be better. The appropriation has been raised from twelve and one-half to fourteen and one-half cents per person. . . There should be a social worker to investigate patients asking for charity," Dr. J. Gould Gardner, of Columbia, said before the Conference of Social Workers in Jackson, April 3.

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"One of the major problems in Mississippi that I am interested in is hospitalization for those who have to go to the hospital without assistance. I want relief for those who need it and whom we can relieve if we will get our heads together. I am willing to go my full limit in every legitimate way to bring about this thing," stated Governor Paul Johnson at the Conference of Social Workers.

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"I think we need a lien law for hospitals doing private work. Such a law would protect the hospitals from losses on patients in automobile wrecks. I think that the people of the community should know that the hospital is rendering a definite service through publicity. We quite often have a gold nugget in our community and do not realize it," averred Major Lawrence W. Long.

Again "finis" is written—a good, noble and useful life has come to its end—Dr. C. B. McCowan, of Aberdeen. After a long struggle against insurmountable odds, he died in his home April 27. His pastor, who conducted the brief funeral service, began his remarks in a subdued and sincere voice, "He was the best man I have ever known. He was my friend; he was your friend; he was everybody's friend; and everybody who really knew him was his friend." Indeed, Dr. McCowan was a man of most unusual mold. He was cultured and refined—he was "meek and lowly" in that he did not put personal interests first in his dealings and contacts. He was quiet and reserved in his manner, and, while he held positive convictions on all matters involving the question of right and wrong, he did not try to force those convictions on others. His judgment was calm and clear, hence his conclusions were correct to an unusual degree. He was kind and courteous to all, yet brave and unyielding in his defense of truth and justice. He was studious and conscientious in work, hence he was well posted and successful in practice. Good men and good doctors, such as he, are all too scarce. But even so the best, the noblest and the most useful go, as must all others. I, personally, have lost a very dear friend.

* * * *

So much of great importance to the world is transpiring and the shift of scene is so rapid that one scarcely dares to express opinions today since conditions may be different tomorrow. About the best we can do is to keep our heads cool and our feet on *terra firma,* hoping that all will yet be well. But let us not, because of the upheavals of the present times, lose our devotion to the great underlying principles of medicine. We have traveled far but the distance that stretches out before us is great. And only by organization, coöperation and the best thought and effort of all can we continue to advance. May we attend the coming meeting at Biloxi and there renew our allegiance to our cause as well as to democracy. Meet me there. —G. S. B.

YOUR STATE MEETING

Our annual meeting occurs soon—May 13, 14, 15 at Biloxi.

This meeting is always of sufficient importance to demand your presence.

Now, because of serious defense problems confronting our nation, let us demonstrate our willingness and desire to act together and individually for all possible service to our people and country.

Attending and supporting the State Medical Association will help us toward that purpose. A. Street, President-Elect.

News and Comments

The American Association for the Study of Goiter will be held in the Hotel Statler, Boston Massachusetts, May 12, 13, and 14, 1941. The program for the three-day meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations.

Dr. Sanford Barton Henton, 79, died at his home in Decatur, Miss., April 4, 1941, following an illness of several weeks. He was the oldest professional man in Newton County, having practiced medicine for 54 years. Dr. Henton was born near Decatur, Miss., August 26, 1861. He attended the University of Mississippi and was graduated from Southern Medical College, Mobile, Ala.

Michael Reese Hospital, Cardiovascular Department, is offering a Full-Time Intensive Course in Electrocardiography from August 18 to August 30, 1941, by Dr. Louis N. Katz, director of cardiovascular research, to the general practitioner. Practice on several electrocardiographic machines and discussions of the principles of their construction and use, with interpretations illustrated by lantern slides, is offered.

Dr. George W. Sisler, 77, died at his home in Tulsa, Oklahoma, on March 23, 1941, of coronary thrombosis. Dr. Sisler was born May 3, 1863, at Stewartstown, West Virginia. He received his preliminary education at the University of West Virginia, began his medical education at the University of the South at Sewanee, Tenn., and attended the Memphis Hospital Medical College in 1903. He obtained his M.D. degree from Maryland Medical College at Baltimore. He did general practice at Water Valley, Miss., from 1905 until 1924, moved to Birdstown, Oklahoma, in 1924 and did general practice there until 1933, when he retired and moved to Tulsa. He is survived by his wife, two sons, three daughters, one brother and one sister.

At the request of Col. George B. Hunter, Col. W. A. Strong will make a brief talk to the association on Tuesday afternoon, May 13. He will probably be accompanied by several other officers out of New Orleans.

ANNOUNCEMENT

The Directory of Medical Specialists is now being prepared. Those who are eligible for listing in the second edition are urged to fill in and return the questionnaires for biographic data now being mailed out by the publication office. This directory will be ready for distribution in February, 1942. It will include approximately 18,000 names.

MEDICAL EXAMINATION NOTICE

The Mississippi State Board of Health will hold examinations for license to practice medicine in the Robert E. Lee Hotel, (Convention Hall), Jackson, Miss., on June 25 and 26, 1941.

Examination on first two years, Wednesday, June 25. (Send or bring certificate for verification).

Examination on last two years, Thursday, June 26. (Send or bring medical diploma for verification).

For application blank write to: Dr. R. N. Whitfield, Assistant Secretary, State Board of Health, Jackson, Miss.

Book Reviews

ORTHOPEDIC OPERATIONS, by Arthur Steindler, M.D., F.A.C.S., Professor of Orthopedic Surgery, The State University of Iowa, Iowa City, Iowa. Published by Charles C. Thomas, Springfield, Ill. Price $9.00.

This book, based largely on the writer's personal experience, has been written in such a manner that it is pre-eminently practical. However, theoretical discussions of physiological, mechanical, and biological nature are included when it seems advisable in presenting treatment of the patient. The book itself is divided in three parts. The first deals with the general surgical facts and with the general approaches to operations. It makes the reader acquainted with the patient as a whole. The second part gives the operative procedures on the several structures of the locomotor system; and the third presents the precise clinical situations in which these operations are to be applied.

The presentation is orderly and the book is written in clear and exact English. There are three hundred and twenty-two original illustrations, especially prepared for this text to assist the reader. The twenty-eight-page index makes every topic and item easily accessible.

FOREIGN BODIES LEFT IN THE ABDOMEN is the title of a most interesting book by Dr. Harry Sturgeon Crossen of the School of Medicine, Washington University, and David Frederic Crossen, LL.B., School of Law, Washington University, St. Louis. It is a book of 762 pages with 212 illustrations, including four color plates. This book is written to call the attention of surgeons to the great danger in leaving foreign bodies in the abdominal cavity, to aid him in the best plan of treatment for such cases, to show the difficulties of avoiding such accidents, and to arouse interest in a serious study of prevention of these occurrences.

The book is a combination of two distinct parts—one treating the subject from the medical standpoint, the other from the legal side.

Full discussion is given on why the sponges or foreign bodies are left in the abdomen, the pathology they cause and how to detect their presence. Detailed plans of prevention are given. The x-ray's part in diagnosis of articles left in the abdomen and those swallowed make the book a most valuable one to every person who does surgery.

What constitutes legal responsibility on the part of the surgeon is an enlightening discussion.

This book called for an unlimited amount of work on the part of the authors. It will fill a great need and should be deeply appreciated by the profession. The book is published by the C. V. Mosby Company, St. Louis, Mo. Price, $10.00.

SCIENCE AND SEIZURES, by William G. Lennox, M.D., Ass't. Prof. of Neurology, Harvard

Medical School. 258 pages, Harper and Brothers, New York. Price, $2.00.

It does even a physician good to read about a problem as simply and clearly treated as Dr. Lennox discusses epilepsy and migraine. He goes back to Biblical times for his explanation of the fear, superstition and hopelessness that have accompanied victims of convulsive seizures. Step by step he answers questions as to types, portion of the brain affected, causes of seizures and diagnosis. Then he presents the preventive measure—eugenics. Treatment is considered from the social, physical and pharmacological angles, plus education of the public. Headaches are studied in the same progressive manner. Of special interest is the information presented concerning electrical waves of the brain. Of interest also is management with the new drugs, dilantin and ergotamine.

Sensible and worth reading by every doctor in general practice, and particularly optimistic to victims of epilepsy and headache, is this little book.

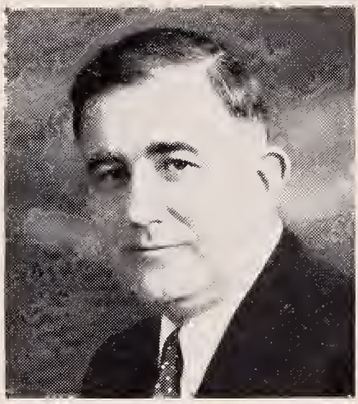
No office or laboratory aid is more important today than the nurse. If she is alert to the many factors that constitute the practice of medicine she will be the hinge between the doctor and the community health program, according to the Don C. Sutton, M.D., author of INTRODUCTION TO MEDICINE, a book prepared for schools of nursing. The book contains 642 pp., 144 illustrations and 14 color plates. C. V. Mosby Company, St. Louis. Price, $3.25.

In giving the student a background of medicine, she is taught that a personal attitude of responsibility toward her patient is necessary for success in her work. The author deplores the impersonal and detached attitude of nurses toward their patients. Like the doctor, the nurse must have a sympathetic understanding of mental and nervous reactions to disease, and she must have a knowledge of the fundamentals of medicine. A large portion of the book is given to a description of disease entities, with the nurse's relation to treatment stressed.

INTRODUCTION TO MEDICINE is an excellent textbook for nursing classes, and not without helpful material for any person engaged in nursing.

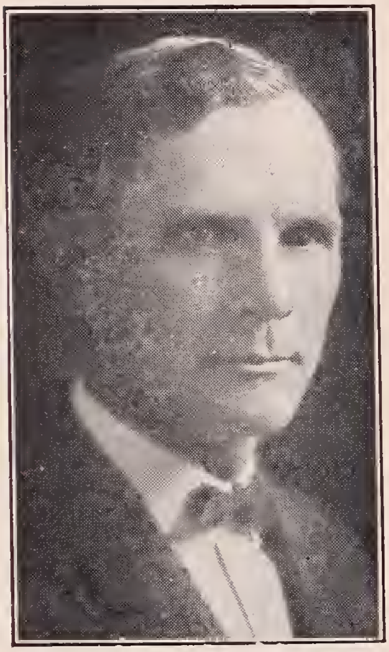
FOR SALE: One set of treatment room furniture, Allison's walnut. In excellent condition, used only about six months. Also microscope, sterilizer and other equipment. Write Mrs. Earl Kaigler, Shaw, Miss.

Officers of Mississippi State Medical Association



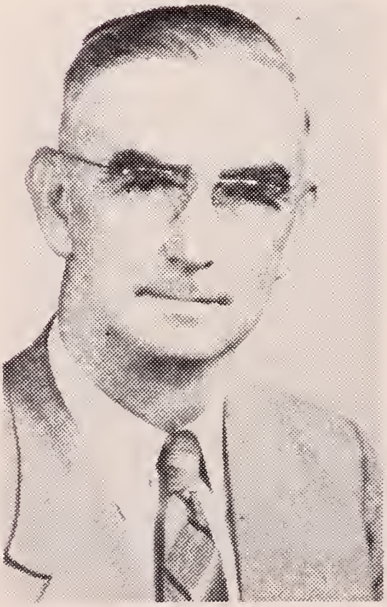
Dr. W. H. Anderson, President
Booneville, Miss.

Dr. A. Street, President-Elect
Vicksburg, Miss.

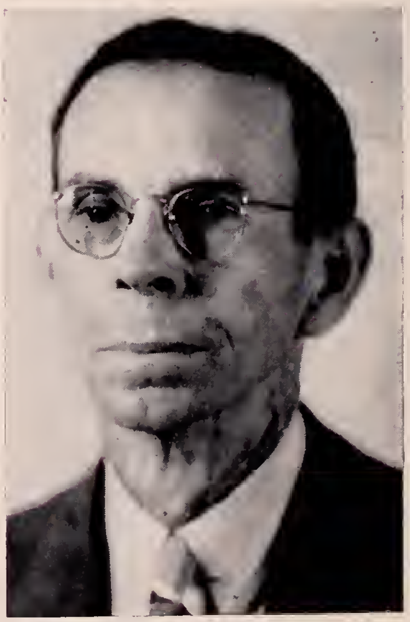


Dr. T. M. Dye, Secretary
Clarksdale, Miss.

Dr. M. L. Flynt, Vice-President
Meridian, Miss.



Dr. C. E. Mullins, Vice-President
Meadville, Miss.



Dr. W. H. Curry, Vice-President
Eupora, Miss.

An Invitation

E. R. Nobles
President

John C. Culley
Vice-President

Leon S. Lippincott
Secretary

Mississippi State Hospital Association

I want to extend to the members of the medical profession and especially those connected with hospital staffs, a most cordial invitation to attend the meeting of the State Hospital Association on May 12 at Biloxi. Our hospitals have become firmly fixed as an integral part of our social and economic structure. They are a powerful influence in determining both the quality and quantity of medical service all the people receive. It is a well known fact that the community without hospital facilities has ceased to attract the young, well prepared, hospital trained physician. The future of the practice of medicine in the state is therefore so intimately tied in with the future of the hospitals, that the problems of the one immediately become the problems of the other. The necessity for continuation of the state-wide plan for hospitalization of the indigent in its present form, the importance of getting over to the people the need for more general use of hospital insurance, and the part our hospitals will have in the program of national defense are subjects among many others that will be discussed, and all of these are of vital concern to every doctor and every citizen of Mississippi.

The coast is a delightful place to visit this time of the year. We are looking forward to having one of the best meetings we have ever had. It will provide for you an opportunity to spend a pleasant and profitable vacation. I hope to see many of you there.

Date of meeting May 12, 1941—Buena Vista Hotel, Biloxi, Miss.

Eugene R. Nobles, President,
Mississippi State Hospital Association.

The following essayists will address the seventy-fourth annual session of the Mississippi State Medical Association. Make your plans to hear as many of these men as possible, not forgetting the luncheon hours.

Tuesday, May 13, 1941
Session 1:30 to 6:00 P.M.
PAVILION—BUENA VISTA HOTEL

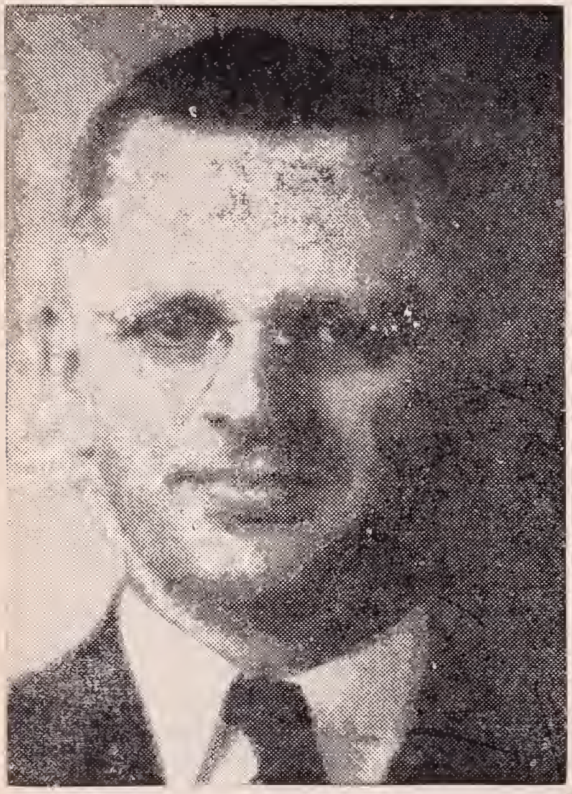
OPENING EXERCISES

Call to Order—President W. H. Anderson, Booneville.

Invocation—Rev. E. A. DeMiller, Biloxi.

Section on Hygiene and Public Health

DR. PAUL T. HANEY, Chairman
LAUREL, MISS.



Director of Jones County Health Department. Dr. Haney was born in Iuka, Miss., April 3, 1899, the only son of the late Dr. T. P. Haney. B.S. degree from Mississippi State College in 1920. Attended University of Mississippi two years; M.D., University of Virginia, 1926. Served as County Health Officer of Tishomingo County two years, Holmes County two years. Received degree of Master of Public Health from Johns Hopkins University in 1931. Served as director of Pike County Health Dept. until 1939. Received degree of Doctor of Public Health from Johns Hopkins in 1940. Since that time he has been director of Jones County Health Department at Laurel, Miss.

DR. H. L. BOONE
LAUREL, MISS.

Dr. Boone was born in Goree, Texas, June 6, 1909; received high school education in Okeene, Okla.; graduated University of Oklahoma, 1929; Emory University, 1933. Interned one year at Grady Hospital, Atlanta, Ga.; two years at Army Hospital, Fort Barrancas, Fla. Entered practice of medicine in Stonewall, Miss., 1936, where he practiced two years. Moved to Laurel in 1939 where he is now practicing.

Subject: "A Resumé of the Syphilis Control Program in Jones County."

Discussed by Drs. F. L. Fisher and D. V. Galloway.

DR. W. W. WADDELL

William Wirt Waddell, Jr., was born in Charlottesville, Virginia, September 10, 1894. His preliminary education was acquired in the public and private schools of Charlottesville. He entered the University of Virginia in 1912 and his academic and professional training were acquired in that institution. He received his M.D. in 1918. Immediately after graduation he entered the United States Navy as assistant surgeon and was later promoted to the past-assistant surgeon. After discharge from the Navy he served a two-year rotating interneship at the Episcopal Hospital at Philadelphia, was a member of the medical staff at White Sulphur Springs for fifteen months, interned at Bellevue Hospital, where he secured his preliminary pediatric training. Further pediatric training was acquired at the University of Virginia Hospital. For the past fifteen years he has served as assistant professor of pediatrics and associate professor of pediatrics. The last he now holds, essentially full-time in the University with offices in the University of Virginia Hospital.

MARTHA M. ELIOT, M.D.
Assistant Chief, Children's Bureau
U. S. Department of Labor

Dr. Eliot graduated from Johns Hopkins Medical School in 1918 and held hospital residences at the Peter Bent Brigham Hospital, St. Louis Children's Hospital, and the New Haven Hospital.

In 1921 she was appointed instructor in the Department of Pediatrics of Yale University School of Medicine, and later Associate Clinical Professor of Pediatrics.

She joined the staff of the Children's Bureau in 1924, and for 10 years was director of the Division of Child and Maternal Health.

In her present position as Associate Chief of the Children's Bureau, she is responsible for the development of the maternal and child-health program of the Children's Bureau, especially the Federal administration of the maternal and child-health services and services for crippled children set-up under the Social Security Act.

DR. RICHARD NOBLE WHITFIELD
JACKSON, MISS.

Born in Rankin County, Mississippi; now 62. Graduate in Medicine from University of Nashville Medical School in 1905; private practice in Florence, Mississippi, 1906-1910; from August, 1910, through December, 1918, with four or five other physicians, carried on the pioneer health work throughout Mississippi under Dr. W. S. Leathers, Director of Public Health. Private practice at Florence, Miss.

January 1, 1924, to the present time, Director of Vital Statistics of the Mississippi State Board of Health. Also chairman of the Vital Statistics Section of the American Public Health Association, and president-elect of the Mississippi Public Health Association.

Subject: "The Serious Aspects of Birth and Death Registration."

Discussed by Drs. H. C. Ricks and W. H. Frizell.

Section on Eye, Ear, Nose and Throat

DR. D. W. HAMRICK, Chairman
CORINTH, MISS.

Native of Lauderdale County, born September 4, 1899. A.B. degree, Mississippi College, 1922; M.D. degree, University of Virginia, 1926. Certified American Board of Otolaryngology, 1939. American Academy Ophthalmology and Otolaryngology, 1940. Hobbies, fishing and golf.

DR. OSCAR WILKINSON

Washington, D. C.

Graduated University of Mississippi, B.Ph.; Columbia University, M.A.; Tulane University of Louisiana, M.D., 1896; Doctor of Science, Southwestern University (honorary); ex-intern New Orleans Eye and Ear Hospital; Assistant Royal Ophthalmic Hospital, London; Fellow A. M. A., Southern Medical Association, American Academy of Ophthalmology and Otolaryngology, Fellow American College of Surgeons. Author, Strabismus, Its Etiology and Treatment.

Subject: "Reports of the Early Operative Treatment of Squint."

Discussed by Drs. Sterling McNair and Hugh H. Johnston.

DR. JACK GUYTON

Baltimore, Md.

Dr. Jack Guyton, the son of Dr. B. S. Guyton, of Oxford, Miss., received his pre-medical training in the University of North Carolina, and his B.A. degree in 1933; graduated from Harvard in 1937 with M.D. Spent four years in the Wilmer Institute of Ophthalmology of the Johns Hopkins Hospital in Baltimore and will remain there another year as resident. One year of this time was spent in research. His investigations were chiefly on sulfanilamide therapy in various diseases of the eye and on uveitis.

Subject: "Etiological Diagnosis of Uveitis."

Discussed by Drs. A. G. Wilde and Hilary K. Rouse.

Tuesday evening there will be a fellowship hour from 6:00 P.M. to 7:00 P.M., followed by dinner at 7:00 P.M.

A Round-Table discussion will be held by Dr. Oscar Wilkinson of Washington on "Squint," and by Dr. Jack S. Guyton of Baltimore on "Uveitis" during the dinner hour.

DR. DONALD S. HALL

Vicksburg, Miss.

B.A. degree, Univ. of M.D., Louisiana State Univ., 1933; completed two-year internship at Louisiana State Charity Hospital, New Orleans, 1935; two-year residency in otolaryngology at the Manhattan Eye, Ear, and Throat Hospital at New York, 1937; and a two-year residency in ophthalmology at the New York Eye and Ear Infirmary, 1939. Spent six months in the mroncho-esophagologic clinic of Dr. Chevalier Jackson, Philadelphia; at present on the staff of the Vicksburg Sanitarium, Vicksburg, Miss.

Subject: "Sulfathiazole in the Treatment of Otitis Media."

Discussed by Drs. Ross Anderson and E. W. Green.

DR. JAMES HOLLINS LIPSEY

Brookhaven, Miss.

Two years pre-med. Univ. of Mississippi; M. D. from University of New York School of Medicine. Two years internship at Bellevue in medicine and surgery. From 1924 to 1926 was on the Columbia Univ. Ear, Nose and Throat Service, Bellevue Hospital, completing his work as house surgeon in this department. Practiced 14 years in Memphis, Tenn., then moved to Brookhaven. Since 1929 he has made the study of absorption his major research problem.

Subject: "Further Studies in Membranous Absorption."

Discussed by D. C. Montgomery and F. D. Hollowell.

DR. G. G. ARMSTRONG

Houston, Miss.

Ophthalmologist and Otolaryngologist, Houston Hospital. Dr. Armstrong is past-president of the Northeast Mississippi Thirteen Counties Medical Society; a member of the American College of Surgeons.

Subject: "The Salivary Glands as Related to Otolaryngology."

Discussed by Drs. Sam B. Caruthers and Willie F. Cotton.

EVENING SESSION—EIGHT O'CLOCK
Tuesday, May 13, 1941—Pavilion

The public is cordially invited.

Invocation—Rev. C. H. Gunn, Biloxi.

Address of Welcome: On Behalf of the City of Biloxi—Major Louis Brawn; On Behalf of the Coast Counties Medical Society—C. H. McCall, Gulfport.

Response to Addresses of Welcome—President-Elect, A. Street, Vicksburg.

In Memoriam—Secretary, T. M. Dye.

President's Message—The Challenge to the Medical Profession—W. H. Anderson, Booneville.

Ewing Fox Howard Oration—Rudolph Matas, New Orleans.

Section on Surgery

DR. V. B. PHILPOT, Chairman
HOUSTON, MISS.

V. B. Philpot, M.D., F.A.C.S., Chief Surgeon, Houston Hospital, Houston, Miss., an institution approved by the American College of Surgeons, American Medical Association, American Hospital Association, which has for many years had the distinction of having four full-time physicians doing no outside practice.

Dr. Philpot has confined his practice throughout his professional life entirely to surgery and has taken postgraduate work at Tulane, Columbia University, New York Polyclinic, Harvard, Cooke County and Rochester. He has always been interested in organized medical and hospital work, has served as president of his district medical society, president of the Mississippi State Hospital Association, and president of the Mid-South Postgraduate Medical Assembly.

DR. GEORGE T. PACK
NEW YORK CITY

Degrees: B. S., Ohio State University, 1920; M. D., Yale, 1922. Hospital training: New Haven Hospital; New York Lying-in Hospital, Asst. Resident and Resident Surgeon; Internship and one-year resident surgeon, Memorial Hospital. Postgraduate Education at Curie Institute of Univ. of Paris; Fellow, 1927. Mem. Hosp., Fellow in Cancer Research, 1928-'31. Attending Surgeon Memorial Hospital; Assistant Attending Surgeon, New Haven Hospital; Consulting Surgeon: Patterson General Hospital, N. J., and others. Member: American Physiological Society, American Society for Cancer Research, American Radium Society, New York State Medical Society, A. M. A., F. A. C. S., Radiological Society of N. J., and others. Certificate in Therapeutic Radiology by American Board of Radiology. Jerome Cochrane Lecturer, 1939. Author of books, the last being THE TREATMENT OF CANCER, in three volumes, with Edward M. Livingston.

Subject: "The Management of Metastatic Cancer in the Groin."

DR. GEORGE E. LEONE
Station Hospital
CAMP SHELBY, MISS.

Major, Medical Corps of Regular Army.

Native of New York.

Graduated from University of Buffalo, Buffalo, N. Y., 1929, with degrees of B.S. and M.D.

Internship at Walter Reed General Hospital, U. S. Army, Washington, D. C.

Graduate of Army Medical School, Washington, D. C., 1930.

Graduate of Medical Field Service School, Carlisle, Pennsylvania.

Appointed First Lieutenant, Medical Corps, Regular Army in 1930. Promoted to Captain in 1932. Promoted to Major in 1941.

Army assignments: Walter Reed General Hospital, Washington, D. C.; Station Hospital, Governor's Island, New York City, 1931; Sternberg General Hospital, Manila, Philippines, 1937; surgeon with Fifth Field Artillery of the First Division, Madison Barracks, New York, 1939; Medical Inspector with headquarters, Second Corps Area, New York, 1940; assigned to Camp Shelby. Miss., October, 1940, during the present mobilization to organize the Surgical Service of the 2000-bed Station Hospital. At present is Chief of Surgery, Station Hospital, Camp Shelby, Mississippi.

Subject: "Medical Service of a Large Military Training Camp." (Illustrated).

(Paper presented jointly with Dr. Word).

DR. BUFORD WORD

Station Hospital

CAMP SHELBY, MISS.

Dr. Buford Word is a native Mississippian. He was born in Monroe County, Aberdeen, Miss., and lived there until he began his career in medicine. Dr. Word graduated from Birmingham - Southern College, Birmingham, Ala., in 1931, and received his M. B. and M.D. degrees from the Louisiana State University Medical Center in 1935 and 1936, respectively. After completing a two-year internship at Charity Hospital, New Orleans, Louisiana, he entered practice in Birmingham, Alabama. During his three years of practice in Birmingham, Dr. Word became associate attending surgeon, Department of Gynecology, Hillman Hospital and a member of the Associate Staff, Department of Gynecology, St. Vincent's Hospital.

He was called to active military duty October 20, 1940, and assigned to the Station Hospital, Camp Shelby, Miss., where he is serving as assistant to the Chief of Surgical Service.

Subject: "Medical Service of a Large Military Training Camp." (Illustrated).

(Paper presented jointly with Dr. Leone).

DR. R. C. O'FERRALL

JACKSON, MISS.

Subject: "Cancer of the Ovary at Mississippi Baptist Hospital."

(Paper presented jointly with Dr. Lipscomb)

Discussed by Drs. Lawrence W. Long and H. A. Gamble.

DR. WALTON LIPSCOMB

JACKSON, MISS.

Dr. Lipscomb was born in Columbus, Miss., Aug. 4, 1904, the son of Dr. J. W. Lipscomb. B.S. degree at University of Alabama; M.D. at University of Tennessee. Served internships at Hillman Hospital, Birmingham, Ala.; McLeod Infirmary, Florence, S. C.; Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York City; residency for one and one-half years at Jamaica Hospital, New York City. Practiced one year at Columbus, Miss., where he was associated with Dr. P. L. Fite at Fite Hospital. Has been practicing in Jackson for the past seven years. Is attending surgeon on the staffs of The Baptist Hospital, Jackson Infirmary and State Charity Hospital. Fellow in the Southeastern Surgical Congress and The American College of Surgeons.

Subject: "Cancer of the Ovary at Mississippi Baptist Hospital." (with Dr. R. C. O'Ferrall).

DR. R. D. KIRK, JR.

TUPELO, MISS.

Surgeon. Dr. Kirk was born Aug. 5, 1898, at Kirkville, Miss., the son of Dr. R. D. Kirk, Sr., Baldwyn, Miss. He received his high school education at Baldwyn, Miss., B.S., University of Mississippi; M.D. University and Bellevue Medical College, 1922; residency in medicine at St. Joseph Hospital, Lancaster, Pa., house surgeon, French Hospital, New York, two years. Dr. Kirk has been practicing surgery exclusively in Tupelo for the past 16 years.

Subject: "Modern Trends in Acute Intestinal Obstruction."

Discussed by Drs. J. C. Culley and Augustus Street.

DR. OTIS H. BECK

GREENVILLE, MISS.

Surgeon and urologist. Pre-medical work at Ohio Wesleyan University. M.D. degree from University of Tennessee, 1923. Three years at Memphis General Hospital (now the Gaston Hospital). Moved to Greenville, Miss., in 1926 where he was associated with Drs. Payne and Hirsch. He is now associated with Drs. Hirsch, Beck and Eubanks in their new $32,000 clinic For five years Dr. Beck has been working on the peritoneal fluid, and has discovered that any fluid in the appendiceal area showing a polymorphic reaction is a positive test, thus helping determine whether to drain or not.

Subject: "The Use of Polymorphic Reaction in Gangrenous and Ruptured Appendicitis."

Discussed by Drs. J. G. Gardner and J. W. Barksdale.

DR. THOS. WOLFORD

COLUMBUS, MISS.

Dr. Wolford is a native Alabaman, the son of a Methodist preacher. Received his preliminary education in Alabama, premedical work at Birmingham-Southern College; M. D. from Northwestern in Chicago. Hospital training in Chicago and Birmingham. When he first began to practice he was associated with Dr. Cecil Gaston, of Birmingham. In 1932 he was appointed on the Junior Surgical Service of the Hillman Hospital in proctology. Bought the Columbus Hospital in 1933; since that time his work has been exclusively surgical. Member A. M. A., Mississippi State Medical Association, Northeast Thirteen Counties Medical Society, Southern Medical and Fellow of American College of Surgeons, a Methodist, Kiwanian, and past-president of the Junior Chamber of Commerce.

Subject: "Surgical Treatment of Ano-Rectal Diseases."

Discussed by Drs. George Wallace and T. E. Ross.

DR. WALLACE POLK SHEELY

GULFPORT, MISS.

Dr. Wallace P. Sheely, the son of Dr. Charles A. Sheely, was born in Gulfport, Miss., Oct. 5, 1900; received his high school education at Gulfport; B. S. degree, Tulane University, 1923; demonstrator of anatomy, Tulane Medical School, 1923; M.D. degree, 1925. Began the practice of medicine with his father at Gulfport. Was appointed local surgeon for the L. & N. R. R. Co., in 1926 and for the I. C. R. R. Co., in 1925; medical director of Beauvoir Jefferson Davis Hospital in 1940; chief of staff Kings Daughters Hospital. Member of Coast Counties Medical Society, A. M. A. Avocation: fishing and hunting.

Subject: "Depressed Fractures of the Skull." (Illustrated).

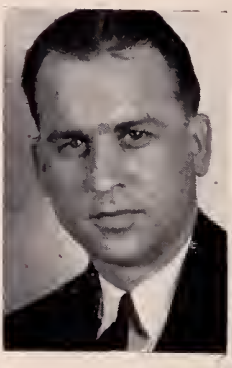
Discussed by Drs. M. M. Snelling and Lowry Rush.

Section on Medicine

DR. A. H. LITTLE, Chairman
OXFORD, MISS.

Dr. A. H. Little is a native Mississippian and son of Dr. W. L. Little of Wesson, Miss., who is a past-president of the Mississippi State Medical Association. Dr. Little received his B.S. degree from the University of Mississippi; M.D., from Tulane University. Graduate work in medicine, allergy and urology. He is associated with the University of Mississippi Medical School as assistant professor of Medicine and Physical Diagnosis. Dr. Little is a member of the staff of Oxford Hospital as internist, and has been secretary of the North Mississippi Medical Society since 1930.

DR. LUCIAN MINOR FERRIS
VICKSBURG, MISS.



Received his elementary education in Pearl River County; B.S. degree from Millsaps College in 1932; two years at University of Mississippi Medical School; M.D. University of Virginia Medical School in 1936; two years medical work at University of Va. Hospital; on resident staff Cincinnati General Hospital one year in Dept. of Internal Medicine. Has been associated with Street Sanitarium at Vicksburg since 1939 as associate in the department of internal medicine.

Subject: "Significance of Upper Gastro-Intestinal Studies."

Discussed by Drs. F. M. Acree and G. W. F. Rembert.

DR. R. E. WILSON
GREENWOOD, MISS.

Dr. Wilson holds a B.A. degree from Vanderbilt and an M.A. from the University of Mississippi. He received his M.D. from Johns Hopkins in 1926. He interned in pediatrics at Johns Hopkins and at Willard Parker, New York. He is a member of the Delta, the State, and the American Medical Associations. He is also a member of the American Academy of Pediatrics. He has also been certified by the American Board of Pediatrics. Dr. Wilson is a past-president of the Mississippi State Pediatric Society. He is an active leader in his specialty and in organized medicine.

DR. WESLEY WAYNE LAKE
PASS CHRISTIAN, MISS.

Born in Cleveland, Ohio, September 11, 1940. Graduate Cleveland High School; A.B. degree with *cum laude* honors from Adelbert College of Western Reserve University, Cleveland, Ohio; M.D., Western Reserve University Medical School. Interned at Walter Reed General Hospital, Washington, D. C. and Fitzsimmons General Hospital, Denver, Colo. Has been practicing at Pass Christian since 1933, practice restricted largely to internal medicine. Past-president Coast Counties Medical Society; associate fellow in American College of Physicians. Member: A.M.A., Gulf Coast Clinical Society, Mississippi State Hospital Association; Staff at King's Daughters Hospital in Gulfport.

Subject: "Rheumatic Fever in the Deep South."

Discussed by Drs. W. K. Purks and John Archer.

DR. MAXWELL E. LAPHAM

New Orleans, La.

Dean of School of Medicine, and Prof. of Obstetrics, School of Medicine, Tulane University, La. Received his education at Univ. of Pennsylvania College of Arts and Sciences; M.D. degree at Univ. of Pennsylvania School of Medicine, 1925. Served internship at Presbyterian Hospital, Philadelphia, two years; Resident physician in obstetrics, Hospital of the Univ. of Pennsylvania two years. Has held the following positions: Private practice and instructor, Univ. of Pennsylvania Sch. of Medicine, 1929-31; Field Instructor in Obstetrics, Univ. of Virginia and Medical College of Virginia, 1932-34; Field Instructor in Obstetrics in Miss., under auspices of Tulane Univ. of Louisiana and Mississippi State Board of Health, 1935-35. Asst. Prof. of Obstetrics, and Director of Division of Medical Extension, Tulane University of Louisiana, 1937-39. Dean of School of Medicine, and Prof. of Obstetrics, School of Medicine, Tulane Univ., since 1940.

Subject: "The Obligation of a Medical School to the Community."

DR. JOHN S. HARTER

Jackson, Miss.

Staff Surgeon, Sanatorium, Miss.

Dr. Harter has been a member of the staff at Sanatorium since August, 1936. Graduated U. of Wisconsin, 1925; M.D., Washington University School of Medicine, 1928; Pathology, University of Minnesota, 1928. Internal Medicine, Barnes Hospital, St. Louis, 1929-30. Surgery, Strong Memorial Hospital, Rochester, N. Y., 1930-31. Fellowship in Surgery, Harvard University, Boston, 1931-32; House Officer Massachusetts General Hospital, Boston, 1932-35; Lahey Clinic, Boston, 1935-36. Member: Central Medical Society, Miss. State Medical Association, American Academy of Tuberculosis Physicians, American College of Chest Physicians, Associate Member of American Association for Thoracic Surgery.

Subject: "Lung Abscess."

Discussed by Drs. Gayden Ward and L. T. Carl.

EVENING SESSION—EIGHT O'CLOCK

Wednesday, May 14, 1941—Pavilion,
Buena Vista Hotel

The public is cordially invited.

First Aid on the Screen—E. C. Parker, Gulfport.

Foods and Fads—Seale Harris, Sr., Birmingham.

Society's Debt to the Doctor—L. T. Lowrey, Ph.D., President, Blue Mountain College, Blue Mountain.

L .T. LOWREY, Ph.D.
President, Blue Mountain College

Public interest centered on the medical profession has brought an appraisal of medical prerogative and performance. Medical ethics, so rarely understood by those outside the profession, has become less perplexing to the laity and more reason for professional stock-taking. The Mississippi State Medical Association is happy to announce a PUBLIC NIGHT, with a program especially planned to bring a closer relation between the profession and the public. Following a picture by Dr. E. C. Parker on first aid, Dr. Seale Harris, from a physician's viewpoint, will discuss "Foods and Fads," a subject of popular emphasis. Dr. L. T. Lowrey, inaugurating a new precedent, will bring a layman's tenets under the subject "Society's Debt to the Doctor."

DR. HENRY LEIDENHEIMER, JR.
First Lt. Medical Corps, Station Hospital
CAMP SHELBY, MISS.

Dr. Henry Leidenheimer, Jr., is a native of New Orleans, La., where he was educated in the public schools. He graduated from the University of Alabama in 1933 and received his M.D. degree from Louisiana State University Medical Center in 1937. After serving his internship at Charity Hospital, New Orleans, La., 1937-38, he served a two-year residency in Obstetrics and Gynecology at Charity Hospital.

Dr. Leidenheimer had just entered private practice in New Orleans where he was a member of the Orleans Parish Medical Society and the New Orleans Obstetrical and Gynecological Society, when he was called to active duty in the military service. Since entering the service he has been assigned to the Station Hospital, Camp Shelby, Mississippi, where he is in charge of the laboratory that serves the hospital.

Subject: "Organization and Function of the Laboratory in an Army Station Hospital."

Discussed by Drs. Harvey Williams and A. V. Beacham.

DR. SEALE HARRIS
BIRMINGHAM, ALA.

Born at Cedartown, Ga. Educated at Univ. of Georgia; M.D. degree from Univ. of Virginia, 1894; postgraduate work at New York Polyclinic, Postgraduate Medical School, Chicago, Johns Hopkins Medical School, Univ. of Vienna, and several European clinics. Prof. Practice of Medicine, Medical Dept., Univ. of Alabama, 1907-13. Prof. Emeritus of Medicine Physician-in-Chief, Mobile City Hospital, 1907-13; Member: A.M.A., Amer. Gastroenterol. Ass'n.; Southern Medical Association, (past-pres.), Conf. on Health Problems in Trop. Amer., Kingston, Jamaica, 1924; F. A. C. P., Maj. M. R. C., U. S. Army, 1917. Editor, numerous monographs and books. Received citation for "Conspicuous and meritorious service in

France" by Gen. Pershing.

Subject: "Diabetes Mellitus and Hyperinsulinism in Pituitary, Thyroid, Adrenal, Hepatic and Pancreatic Origin."

DR. EDWIN M. MEEK
Columbia, Miss.

Dr. Meek is associated with the Columbia Clinic-Hospital. He was born at West Point, April 28, 1910. Attended public schools at West Point; B.S. degree, Univ. of Mississippi., M.D. from Tulane in 1934. Interned at City Hospital of Baltimore, practiced three years at Glendora; was resident at the Commonwealth Hospital in Ada, Okla., for six months; had a Commonwealth Postgraduate Fellowship at Harvard and a five months' fellowship at the Boston Dispensary. Fraternities: Phi Eta Sigma; Delta Kappa Epsilon and Nu Sigma Nu.

Subject: "The Upright Position in the Treatment of Heart Disease."

Discussed by Drs. T. E. Wilson and Sam Brister.

LIEUT. COLONEL RICHARD H. EANES

Lieutenant Colonel Richard H. Eanes, Medical Corps, United States Army, has been placed at the National Selective Service Headquarters in Washington, D. C. Lt. Col. Eanes has been in the Medical Corps of the Regular Army for many years and is a well trained executive and physician. He has seen foreign service in the first World War and has been assigned to duty at the Army Medical Center, Walter Reed Hospital, and at the Fitzsimmons General Hospital at Denver, Colorado, where he was on duty for five years at a time when this hospital had, without a peer, the best diagnostic center in the United States. Lt. Col. Eanes was on duty at San Antonio, Texas, when his services were seen to be so necessary and vital to the National Selective Service System. Lt. Col. Eanes is an ardent student of medicine and one of the most able leaders in military medicine.

It is with a great deal of pleasure that we are able to announce that he will be present at the Mississippi State Medical Association annual meeting at Biloxi on May 15, 1941, where he will speak on "The Relations of the Medical Profession to Selective Service."

RESOLUTIONS OF RESPECT

Whereas, The supreme day and the inevitable hour came to Dr. Benson Blake Martin, Sr., March 9, 1941 after sixty-four years, eight months and three days of useful life, and after he had completed the course fortune had allotted him, he passed renown in life, illustrious in death, descending to his grave "like one who draws the drapery of his couch about him and lies down to pleasant dreams";

Whereas, This eminent physician and skilled surgeon was the founder of this institution, The Vicksburg Infirmary, and builded it in exalted character, lifegiving services, worthy achievements, and lived to see his proper ideals come to full fruition, and now reposes like a faithful toiler taking his rest through the long and unbroken future day that passes not, but holds to our view only a mirage of the past which flickers like ill defined shapes that float on summer skies;

Whereas, In the midst of his labors, the tools have dropped from his relaxing fingers and he will work here no more, nevertheless, the impress of his valiant life, the achievements of his skilful hand, the soundness of his peerless philosophy, the beneficence of his faultless wisdom will abide here as enduring as the brick and mortar of this material building which houses the institution that he founded, cherished, and loved devotedly;

Whereas, This esteemed physician and erudite surgeon spent his entire life in this community and in this institution after its establishment, enriching the lives of many nurses and young doctors, bolstering the ambitions and contributing most potentially to the knowledge and skill of those training in this institution who were fortunate to receive the urge of his guiding hand and the momentum of his dynamic mind;

Whereas, This faithful husband, beloved father, devoted grandfather, loyal friend, pleasing companion, safe and sane advisor has enriched and enobled our lives through devotion and service, has taught us how to live and now has shown us how to die; "His days of sorrow and joy have passed, he lived with honor to the last. He is not extinguished, not decayed, but like a star that drops from high, shines brightest in its passage through the sky";

Therefore, Be It Resolved, That the staff of the Vicksburg Infirmary in grateful recognition of the Great Physician's Care of all mankind in having ordained "Death is the liberator of him whom freedom cannot release, the physician of him whom medicine cannot cure, the comforter of him whom time cannot console," bow our heads and hearts in unquestioning reverence to the final rest from labors of our beloved friend, co-worker, the chief of this staff, the founder of this institution, and

Be It Further Resolved, That we spread on the minutes of the Vicksburg Infirmary Staff a copy of these resolutions and send a copy to the family and one to the press as a humble though inadequate expression of our high esteem and abiding confidence in our absent leader.

VINCENT BONNELLI,
F. MICHAEL SMITH,
W. C. POOL,
PRESTON HERRING,
—Committee on Resolutions.

Mississippi State Medical Association

Organized 1867

Next Meeting: May, 1941, Biloxi

OFFICERS

President—W. H. Anderson, Booneville
President-Elect—Augustus Street, Vicksburg
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Ninth District—D. J. Williams, Gulfport

COMMITTEES

Program:
Surgery—V. B. Philpot, Houston
Hygiene and Public Health—Paul T. Haney, Laurel
Medicine—A. H. Little, Oxford
E. E. N. and T.—D. W. Hamrick, Corinth

Public Policy and Legislation:
Felix J. Underwood, Jackson
Henry Boswell, Sanatorium
W. H. Anderson, Booneville

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p. m.
Alcorn	G. W. Googe, Rienzi	Bernard Patrick, Corinth	Third Thursday 7 p. m.
Amite	W. R. Brumfield, Gloster	Anderson Butler, Liberty	Second Thursday 7:30 p. m.
Central Medical	W. E. Noblin, Sr., Jackson	H. C. Ricks, Jackson	First Tuesday 7:30 p. m. Omit July and August.
Claiborne		G W. Acker, Port Gibson	
Clarksdale and Six	J. A. Slack, Friars Point	Guy R. Post, Clarksdale	1st Wed. March and Sec. Wed. Nov
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	C. H. McCall, Gulfport	D. L. Hollis, Biloxi	
Delta Medical	H. A. Gamble, Greenville	F. M. Acree, Greenville	Sec. Wed. April and Oct., 2 p.m.
DeSoto	Henry M. Wadsworth, Hernando	L. L. Minor, Memphis, Rt. 4	
East Mississippi	C. A. Kirk, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-Warren	W. K. Purks, Vicksburg	Alston Callahan, Vicksburg	
Jefferson	C. R. Senter, Byhalia	Herbert Phillips, Holly Springs	Second Thursday.
Jones	Eugene A. Bush, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley,	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	H. L. Scales, Jr., Starkville	A. J Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	E M. Givens, McComb	T. Paul Haney, Jr., McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr., Hattiesburg	3rd Tues., Mch., June, Sept., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop.-Law.-Lin.-Wal.	I. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., March, April, June, Dec
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	C. E. Catchings, Woodville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat — Alston Callahan, Vicksburg.

Eye—S. S. McNair, Jackson.

Obstetrics and Gynecology—J. W. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EYE

PENTOTHAL SODIUM ANESTHESIA IN OPHTHALMOLOGY, Louis W. Statti, M.D., Archives of Ophthalmology, Vol. 25, p. 487, March, 1941.

The author has used pentothal sodium intravenously in one hundred consecutive cases for eye operations without any untoward complications or fatalities. He stresses the importance of premedication before the anesthesia is given and advises morphine sulfate and atropine sulfate preoperatively. He also advises three drops of pontocaine hydrochloride one-half per cent at five-minute intervals instilled into the eye just before operation. He feels that this instillation of pontocaine permits an earlier start of the operation and prevents the sneezing that occasionally complicates the use of intravenously administered anesthetics for surgical procedures on the eye. The dosage that he uses varies in different individuals, from five grains given to a four-year-old child to 18 grains given to a healthy adult for an operation lasting thirty-five minutes. The adults are given an initial dose of 2 to 3 cc., and the injection is then stopped to permit the appearance of complete effect which comes on in approximately thirty seconds. Then as more anesthetic is needed the solution is injected very slowly until the desired effect is attained. The respirations are depressed, and for that reason it is absolutely necessary that oxygen or a mixture of carbon dioxide and oxygen be administered continuously during the operation by means of nasal or oral adapters. Blood pressure dropped from 4 to 40 mm., depending on the duration of the operation and the dosage used and the fall is in direct proportion to the amount of the agent administered. There were no deleterious effects on the myocardium observed. The postoperative reaction was brief and there were no serious complications encountered. Contained in these 100 cases were practically all types of operations on the eye and included 34 cataract extraction and three operations for retinal detachment.

—S. S. McN.

(Guest Contribution)

THE NEUROGENIC THEORY IN PEPTIC ULCER

THERE is probably no phase of medicine that has been more widely discussed than peptic ulcer and its causes. So many men have listed so many causes, some probable, some far-fetched, that my opinion undoubtedly counts for little when it is added to the oceans of literature that have been inflicted upon us concerning this subject. By the same token, where so many diverse opinions have been expressed, one is convinced that no one really knows anything about the subject that is worth recording! I overcome my caution by reasoning that probably my own opinion is of as much value as that of my more distinguished colleagues—and probably just as inaccurate. The opinion given herewith is based entirely upon clinical observations in routine office, bedside, and hospital experience, with no attempt to prove or justify it by detailed research upon dogs, guinea pigs, monkeys, or any other variety of fauna. Indeed, clinical experience has taught us that such research procedures, artificially producing various pathological manifestations, are more often misleading than practical. In one or two instances, I shall make references to research work done by other men, which I think might have a bearing on the subject under discussion.

It has long been my observation that ulcer cases almost invariably run more or less to type, insofar as personality is concerned.

Most of them are of the forceful, driving, go-getter sort. Those that do appear phlegmatic will, under careful questioning, reveal an inner, psychic turmoil due to mental unrest or uncertainty, or an inability to complete some pattern of existence that would place that individual on the road to mental or psychic equanimity.

Granting that psychic influences are etiologically important, and that ulcers do commonly appear in persons who live under nervous tension, the next question is, "How do these influences act?" I shall attempt to explain by saying that it is an established fact that psychic stimuli of a certain type will increase the acidity and peptic activity of the digestive juices. Is it not also possible that smaller amounts of mucous and other protective fluids of the stomach may be secreted? It is well known that ischemia of the tissues may be produced by a simple spasm of the blood vessels of the muscularis mucosa, or of the vessels of the muscular wall of the stomach and bowel. It has also been proved that shutting off the pancreatic and gastric secretions by artificial measures almost invariably caused ulcers of the digestive tract. This being the case, one wonders if ulcers are not being produced by an emotional drying up of these protective secretions under stress and strain similar to the drying up of the saliva in the mouth under like conditions. The ischemia of the mucosa resulting from a psychic upset would undoubtedly render the stomach lining more vulnerable, and this state plus the aberrant secretion which intensifies gastric acidity, and at the same time reduces protective secretions, would undoubtedly be a prolific factor in the production of ulcer.

Probably the most popular conception of etiology where peptic ulcer is concerned has heretofore been that of infected foci. When we note that practically all ulcers are located in that portion of the gastric mucosa which is in close contact with the gastric secretion, such as the pendulous pyloric portion of the stomach and the first portion of the duodenum, we must take into consideration the known bactericidal qualities of the gastric secretion. Organisms do not fare well in such a media. Then too, if the infectious focus theory is to be taken seriously, why is not the upper portion of the stomach involved where there is no concentration of gastric juices to inhibit the growth and action of pathogenic organisms? It is my opinion that any infection that might occur in an ulcer is secondary and transitory. Among the charity cases seen in the John Gaston Hospital in Memphis, we find a very high percentage of infections of the teeth, sinuses, and gums. Yet, the incidence of ulcer in the patients of that institution is about the same as one will find in the patients of the Baptist Memorial Hospital in the same city, where the financial status of the patients is infinitely higher, and mouth hygiene correspondingly better.

Why do some high-strung, worrying type of individuals develop ulcer and others of the same temperament escape it? Undoubtedly, there must be certain predisposing factors that enter the picture. What they are, no one seems to know, but I do know that I have never seen an ulcer in a patient that led a placid existence and who seemed well pleased with the scheme of things. I also know that many of my ulcer cases have healed promptly when their financial or domestic status improved, after many weeks or months of unsuccessful attempt at therapy on my part. In this connection, we may say that cure depends upon the individual case, but all cures do come under the same general heading. Taking one man away from his business may help; another may be made worse. One patient may be aggravated by his inability to keep an eye on his business while in a hospital, and thus defeat our efforts to produce peace of mind, while hospitalization away from a nagging spouse or uncongenial surroundings will in all probability work wonders with yet another.

John E. Cox, M.D.
127 Madison Avenue,
Memphis, Tennessee.

PEDIATRICS

The Evolution of Rheumatic Heart Disease in Childhood, Rachel Ash, Pennsylvania Medical Journal, 44:484, (January) 1941.

The changes in physical signs of the heart that occurred in a group of 549 rheumatic children over an average period of 9 years is described.

At the close of an average period of infection of nine years, ten per cent of three hundred and forty patients with early signs of heart disease showed no obvious cardiac abnormality. Regression in 37 members of this group was balanced by the development of cardiac lesions among thirty-nine of those originally considered to have possible or potential heart disease.

Recurrences were a predominant factor in maintaining and increasing cardiac damage. Ninety-two per cent of those with persistent heart disease gave a history of recurring infections, whereas only forty-five per cent of the group in which regression of cardiac signs was noted gave a similar history of recurrences. Eighty per cent of the lesions of the heart which were contracted subsequent to the first attack made their appearance during acute recrudescences. On the other hand, in the seeming absence of infection, after a prolonged latent period, the murmur of mitral stenosis became audible in five individuals and of aortic insufficiency in one. Whether the appearance of heart disease in such individuals implies the existence of subclinical activity of the infection is a subject for speculation.

Recognition of the fact that the mid-diastolic blow heard during active carditis is not a sign of organic mitral stenosis has been a relatively recent development in the study of rheumatic heart disease. This murmur appears early in the disease, at a time when the mitral ring is dilated rather than stenosed, and tends to disappear with subsidence of active infection. In the present series mitral stenosis of the adult type with typical diastolic rumble was noted forty-five times (8.5 per cent). The average age at which the rumble was first heard was twelve years, approximately five years after onset of infection.

At the end of the first year 46 individuals were dead. After an average duration of nine years one hundred and forty-four had died. Approximately one-third of the deaths had occurred within the first year following the initial infection.

Comment

Although rheumatic heart disease in childhood is not seen so frequently in this country as it is in the North and East, I am convinced that it is more prevalent than most of us suspect. It can be readily seen from statistics presented in this abstract that we have not made very much progress in the treatment of this disease. Probably one of the most important features of the treatment consists in obtaining a good history as to the hereditary influences and other conditions which may influence the disease.

The symptoms in all cases are very important and help one to make a correct diagnosis. Certainly in a condition so baffling early and so incurable late, the history of previous cases among relatives is an important clue. Low grade, unexplained fever, persistent and occasional remittent fever may mean an early sign of rheumatic fever. Increase in pulse rate not accompanied by some other febrile condition is often an important lead to a correct diagnosis; fatigability with lassitude, malaise often accompany rheumatic fever. Nose bleed and common infections of the upper respiratory tract are often considered as being responsible for rheumatic episodes, but when we know that many children develop rheumatic fever without having any recognizable infections there must be a rheumatic soil somewhere.

Rheumatic nodules are present in five to fifteen per cent of the cases. Chorea is a manifestation of the rheumatic infection of the central nervous system. Carditis is many times more frequent than polyarthritis. Carditis was found to be the initial manifestation in 18% of a large group of cases.

In a group of fatal cases in another series, ninety-four per cent showed cardiac involvement. Eighty-four cases studied in a mid-West clinic showed a definite history of polyarthritis or chorea or both. The leukocyte count has been declared to be the most valuable single procedure for ascertaining the presence of rheumatic fever in the differential diagnosis, but is of little help in making an early diagnosis. The sedimentation test is variously evaluated by different observers; most of them now feel that it is not of outstanding value. I think the most of us should give a more careful consideration and study to these cases. I am afraid that we are missing many of them which we should diagnose early. It would expedite the treatment of many of these cases who would otherwise be hopeless.

—H. F. G.

State Board of Health

Felix J. Underwood, M.D.

CONTAGIOUS DISEASES AND NATIONAL DEFENSE

The history of all previous wars shows that contagious diseases have played a tremendous part in deciding the victors. Dr. Hans Zinsser, in his book "Rats, Lice and History," stated that "Wars are lost by generals and won by epidemics." Fragmentary reports from Europe indicate that certain epidemic diseases are just beginning to take their toll, particularly in some of the invaded countries. One may reasonably prophesy that the contagious diseases will, in the future, take an increasing toll of lives both in the countries at war and in those preparing for war.

In the face of the present emergency in this country, these facts cannot be too strongly emphasized. Previous experience should be sufficient forewarning of what is likely to come. The situation demands the closest type of coöperation between private physicians and public health workers in preventing, as far as possible, the spread of contagious diseases. Alertness and full coöperation now will lessen the intensity of the problem later on. This means that there must be prompt reporting by private physicians of their communicable disease cases to the local health officer. In addition, it requires prompt and thorough investigation by public health personnel of the reported cases in coöperation with private physicians and the inauguration of control measures as indicated. Neither private physicians nor public health workers can afford to be negligent in these respects, particularly during the emergency which is rapidly developing.

In failing to report promptly such diseases to the health officer, the private physicians are obstructing national defense. Likewise public health workers are not doing their share in national defense unless when such diseases are reported they put forth all reasonable efforts to prevent spread of these diseases. When it is all over, it is hoped that it cannot be said that the medical profession and public health workers contributed to losing the battle through negligence in dealing with epidemic diseases. We can make the country strong for democracy only by putting to work fully the knowledge which we have gained in the prevention and control of disease conditions. Intelligent coöperation, careful planning, and unstinted sacrifice are needed now as never before in making our defense effort count.

* * * *

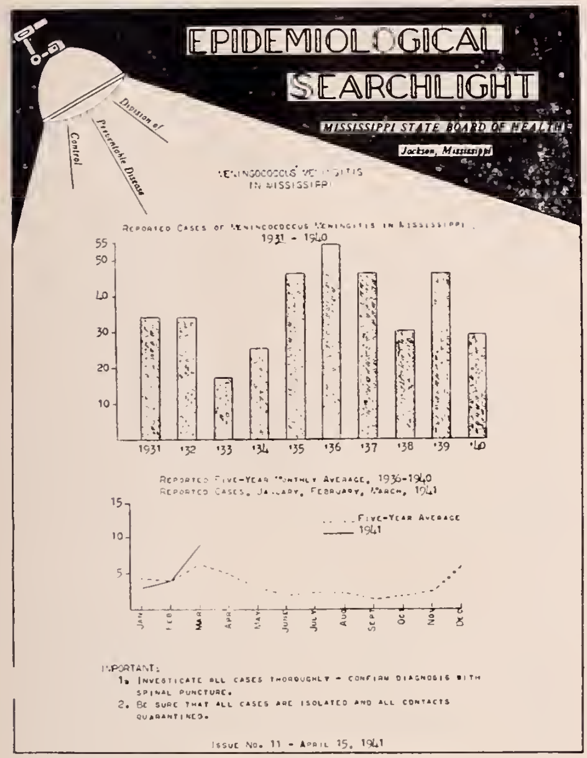
TYPHUS AND UNDULANT FEVER

Two diseases which are apparently increasing in prevalence in Mississippi are endemic typhus fever and undulant fever, according to Dr. A. L. Gray, director of Communicable Disease Control. Most of the cases of typhus fever have occurred in the southern half of Mississippi, but during the past few months cases have been reported from all sections of the state. Epidemiological evidence points to a continued increase in the future in its prevalence, and physicians are requested to watch for cases and report them as diagnosed or suspected.

Typhus fever is transmitted primarily by rat fleas. Consequently it is found most commonly among those who frequent rat-infested buildings such as food and feed stores, barns, etc. Control of the disease is through rat extermination and rat-proofing.

Undulant fever is contracted primarily by consuming raw milk from cattle infected with brucella abortus. Its prevention consists of pasteurization of milk and eradication of Bang's disease from cattle.

MENINGOCOCCUS MENINGITIS



EPIDEMIOLOGICAL SEARCHLIGHT

MISSISSIPPI STATE BOARD OF HEALTH

Jackson, Mississippi

Division of Preventable Disease Control

MENINGOCOCCUS MENINGITIS IN MISSISSIPPI

IMPORTANT:

1. INVESTIGATE ALL CASES THOROUGHLY - CONFIRM DIAGNOSIS WITH SPINAL PUNCTURE.
2. BE SURE THAT ALL CASES ARE ISOLATED AND ALL CONTACTS QUARANTINED.

ISSUE NO. 11 - APRIL 15, 1941

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INSTITUTES FOR PUBLIC HEALTH

Special institutes were held during April 14 to 24 for the benefit of public health nurses through the state. An institute on MATERNAL HYGIENE was conducted by Dr. Maude Gerdes, director of Maternal and Child Hygiene of the State Board of Health, and one on Orthopedic Nursing was led by Miss Elise Smith, Supervising Nurse, Crippled Children's Service, State Department of Education. The institutes were held at Jackson, Meridian, Tupelo, Laurel, Brookhaven, Clarksdale and Greenwood and were made possible through the assistance of Miss Mary D. Osborne, Supervisor of Public Health Nursing of the State Board of Health.

* * * *

LABORATORY HELPS DEFENSE

The personnel of the Mississippi State Hygienic Laboratory is playing no small part in the defense program. While every department has felt the impact of the additional load which must be carried, the laboratory group has been one of the most heavily taxed in the organization in increased volume of work.

During the six months' period ending December, 1940, the laboratory operated at what seemed to be maximum capacity. There was an increase of approximately 100 per cent in the number of blood specimens submitted for agglutination tests and bacteriological examination and an increase of approximately 100 per cent in the number of specimens of feces submitted for bacteriological examinations for the isolation of intestinal pathogens, as compared with the previous six months. This increase might be attributed in part to the apparent increase in cases of suspected typhoid fever and epidemiological investigations made in attempting to determine the source and spread of the cases and also to examination of food-handlers in extra-military zones. There were marked increases in the number of urinalyses made and also in the number of specimens submitted for diagnosis of gonorrhea and syphilis. All in all, a total of 186,345 specimens were examined during the period as compared to 148,887 during the previous six months.

In spite of the limitations in number of personnel and equipment, the entire State Board of Health is giving of its best in the efforts to protect "these ramparts we watch."

* * * *

Representing the Mississippi State Board of Health at this year's Conference of State and Territorial Health Officers and at the annual Conference of State and Provincial Health Authorities were Dr. Felix J. Underwood, executive officer, and Dr. J. A. Milne, director of County Health Work. The conferences were held at Washington, D. C., April 28 to May 3. In 1939 Dr. Underwood served as president of the State and Provincial Health Authorities and this year he is again chairman of the Child Hygiene Committee of the conference. He serves in the same capacity on the Maternal and Child Health Committee of the State and Territorial Health Officers group and is also a member of the Committee on Delayed Birth Registration of the first named conference.

* * * *

"The Messenger," a small publication of the Mississippi Celebration of the President's Birthday, made its initial appearance March 27, 1941. It carries the announcement that Mississippi now has 50 chapters for infantile paralysis either organized or in the process of being organized. The chapters are set up under authority granted by the National Foundation for Infantile Paralysis, 120 Broadway, New York.

"The Messenger" carries a letter which may be of interest to Mississippi physicians coming in contact with crippled Negro children. It reads as follows:

Tuskegee Institute,
Tuskegee Institute, Ala.
March 21, 1941.

Dr. Felix J. Underwood
State Chairman Celebration
of the President's Birthday,
Jackson, Mississippi

Dear Doctor Underwood:

Your letter concerning patient has been referred to this office. We are enclosing application blanks for this patient, and I assure you that we will be very pleased to coöperate with your organization in the care of this child. We cannot provide transportation and clothing but in most instances the local chapters of the National Foundation have assumed this responsibility.

I am enclosing a picture of the newly completed Infantile Paralysis Center at Tuskegee Institute. I sincerely hope that you will be able to visit Tuskegee in the near future.

About a year ago I wrote you concerning our facilities at Tuskegee Institute for the care of Negro crippled children, and I again wish to bring to your attention that we are even better prepared to extend complete orthopedic services to those communities in which the facilities for the care of a crippled Negro child are lacking.

Very truly yours,
John W. Chenault, M.D.,
Director of Orthopedics,
John A. Andrew Memorial Hospital.

County Societies

DELTA MEDICAL SOCIETY

The thirty-seventh semi-annual meeting of the Delta Medical Society which took place at Belzoni, April 6, was highlighted by talks by two great surgeons, Dr. Urban Maes, of New Orleans, and Dr. Howard Gray, of the Mayo Clinic. Dr. Felix J. Underwood and Dr. C. M. Speck, guests of the society, gave very good talks.

The Delta Medical Society is 92% paid up in membership dues. Two counties out of the five have a 100% paid up membership.

The above is a good report by Dr. Acree. We are very sorry we could not be present. When the Lord was making secretaries he must have taken quite a bit of pains selecting the material and arranging it for Dr. Frank Acree.—Ed.

DESOTO COUNTY

The program, the attendance and the social features promise to be unsurpassed at the meeting of The Mississippi State Medical Association in Biloxi May 13-15. The annual oration by the well known scholarly Dr. Rudolph Matas will be a feature of the meeting.

Lay aside those cares which so easily beset you and be preesnt at this annual gathering of your fellows; you will enjoy it and be the better off for it. President Anderson has been resolute in his good purpose to make this meeting a representative one. Biloxi is an ideal convention city.

* * * *

When Dr. Arthur Bachmyer, medical director of the University of Chicago, and president of the American College of Administrators, told the Southeastern Hospital Conference at New Orleans that the "Army is cutting its own throat" in drafting medical students before their education is completed was eminently right.

The Selective Service System in its entirety has been working smoothly. The position of the medical student is different, perhaps, from that of any other class. His field is one essential to the well-being of humanity. Dr. Bachmyer urges that he be placed in class 2-A, which would defer induction until need became more necessary, and then should be assigned to the Army medical department and to it alone. It should be made possible for them to serve internships in Army hospitals so that when they do return to civilian activity their professional service can be best utilized.

* * * *

Nearly everyone is familiar with the ballad, "When the Swallows Come Back to Capistrano." Not so familiar is the story of the graceful birds that inspired it.

Every year, promptly on March 19, St. Joseph's day, thousands of swallows wing their way to San Juan Capistrano Mission, just out of Los Angeles, Calif., on Highway 101. There they nest in vine-clad walls of the old Mission through spring and summer, then leave October 23, feast day of St. John, or Juan, patron of the Mission that was founded in 1776. Protected and given tender care here, the swallows rear their young and teach them to fly in nearby canyons.

Where they come from, and where they go is profound mystery; some suggest that their destination is the Holy Land.

* * * *

Our Sunday school lessons for this quarter have been from the Gospel of Saint Luke, one of the most readable and spiritual books of all time.

"The personal friendship of Luke with Mary, the mother of Jesus, enabled him to give us a glimpse at the boy-life of the Master. This intimacy, coupled with his professional character as a physician, enabled him to draw from her the particulars of the miraculous conception, as well as the singular circumstances surrounding and connected with the Messiah's birth. Luke's narrative tells a mother's story. A womanly woman would not—could not—tell that story to any other than her confidential physician, nor could another person fully appreciate the details of such an event. Think for a moment of the utter impossibility of a mother telling of these occurrences to a rude fisherman, or to a taxgatherer. Her nature would revolt and compel her to shrink from the ordeal, but to Luke—he was her doctor. He knew of the distress and maternal agony that she had suffered; she knew of his exceeding gentleness and sympathetic nature. She would and did tell him the whole story."

("Luke; The Beloved Physician," by the late Dr. J. C. Culbertson, Cincinnati, O.)

In many instances Saint Luke shows his medical training in addition to the fact that he portrays our Lord Himself much more in the light of a healer and physician. In his joyousness, his deep sympathy for the poor and suffering, his was a beautiful soul from which came "the most beautiful book ever written."

* * * *

A microscope weighing about 500 pounds and measuring seven feet high and about three feet square at the base will soon be installed for the Medical Department of the University of Pennsylvania; this new device is capable of yielding a sharply defined image up to 100,000 times the actual size of the object, revealing to scientists many biological and other particles which never before have been seen.

It has been pointed out too that a baseball magnified to this proportion would be four and one-half miles in diameter, while a human hair thus enlarged would assume the proportions of one of California's giant sequoia trees. This wonderful instrument will be used for the study of biological materials too minute to permit accurate measurement with ordinary microscopes.

* * * *

"Once to every man and nation comes the moment to decide,
In the strife 'twixt truth and falsehood, for the good or evil side.
Some great cause, God's new Messiah, offering each the bloom or blight,
Parts the goats upon the left hand, and the sheep upon the right.
And the choice goes by forever, 'twixt that darkness and that light."
—Lowell.

* * * *

Mistress (to careless maid): "Mary, I found a large cobweb in the drawing room. How do you account for it?"

Maid (brightly): "I think, mum. it must be them spiders."—San Francisco Chronicle.

* * * *

A MINISTER'S LOGIC

A certain Scottish minister in a West Highland parish had never been known to allow a stranger to occupy his pulpit. On one occasion, however, an Edinburg divinity student, who happened to be spending a few days in the parish, called at the manse on the Saturday and asked the minister if he might be allowed to preach the following day. "My dear young man," said the minister, laying a hand on his shoulder, "gin I let ye preach the morn and ye gie a better sermon than me, my folks wad never again be satisfied wit my preaching; and gin ye're nae a better preacher than me, ye're no worth listening tae."—Pittsburgh Sun.

* * * *

The Duck-Billed Platypus of Australia is a web-footed, duck-billed animal which lays eggs. It has a soft coat of fur somewhat like the muskrat, and in building its home it exhibits the cunning and the wizard-like architecture of a beaver. The platypus depends upon its cunning for its protection and because it lacks other means of defense it is rapidly becoming extinct. It is said that, unless governmental supervision of its habitat is speedily established, there is little chance for this strange animal to survive.

* * * *

TAKE ME BACK TO MISSISSIPPI

Take me back to Mississippi,
Far across the fields of cane,
Over east of Louisiana,
Am I pining all in vain,
Where the sun is shining brightly,
And the stars are blinking too;
Take me back to Mississippi,
There I want to kiss but you.

When the evening breezes whisper,
And the whipporwill doth call,
When the grim scream of the night hawk,
Ever sound so weird and all;
When the brooks are murmuring softly,
And the woods are all perfume;
Take me back to Mississippi,
Where the honey-suckles bloom.

There's a mansion old and dreary,
Where I lived long, long ago;
'Way back there in Mississippi,
'Round its door sweet roses blow.
Take me to that dear old homestead
Where the cedars, dark and tall,
Cast their shadows in the moonlight,
Ghost-like phantoms on the wall.

Take me back to Mississippi,
Far beyond those marshes drear;
Over east of the big river,
I long to be there with you, dear.
Where the sun shines so brightly,
And the stars are peeping thru,
Take me back to Mississippi,
There I want to die with you.
—Lydia Gibson Alverson.

Mrs. Alverson was the wife of Dr. David Sexton Alverson, of Vicksburg; Dr. Alverson was foully murdered some years ago near the National Cemetery by parties who enticed him away from his office proposing that he make a visit to a patient. The murderers were duly tried and convicted. The Alversons and Gibsons both lived south of Vicksburg near Cedars where the families held extensive interest; both were of old Southern lineage and of the best type. Mrs. Alverson later lived in California.

Rt. 4, Memphis, Tenn. L. L. Minor,
April 20, 1941. Editor.

EAST MISSISSIPPI MEDICAL SOCIETY

The East Mississippi Medical Society met in regular quarterly meeting at the Lamar Hotel in Meridian, on March 20 at 2:30 P.M. with a good attendance. Dr. C. A. Kirk, president, being in New Orleans taking postgraduate work, Dr. T. G. Cleveland, president of the Lauderdale County Medical Society, acted as president throughout the meeting.

Minutes of the previous meeting were approved as read. Dr. J. P. Tatum, of Meridian, was elected to membership. There being no further business to be considered, the following program was carried out and a very enthusiastic discussion of most of the subjects presented was had:

1. "Nervousness," by Dr. T. G. Cleveland, of Meridian.
2. "Bedside Techniques—Effect on Present and Future Medicine," by W. H. Banks, of Philadelphia.
3. "Blood Pressures," by Dr. W. R. Holladay, of Meridian.
4. "Medical Society Organization," by A. Street, president-elect of Mississippi State Medical Association, Vicksburg.
5. "Syphilis Complicating Pregnancy," by Dr. Maxwell E. Lapham, dean of Tulane Medical School, New Orleans, La.

Fellowship hour, 5:30-6:30.
Dinner, 6:30-7:30.

6. "Medical Progress and Problems," by Dr. W. H. Andreson, president of the Mississippi State Medical Association, Booneville.
7. "Normal Obstetrical Delivery" — Motion picture.

Immediately following the dinner, Dr. A. C. Bryan, of Amory, presented a photograph of the first medical society of London, England, to Dr. Felix J. Underwood. Dr. Underwood made a short talk accepting the photograph and stated that it would be placed in the library of the State Board of Health in Jackson.

The president noted with regret the absence of Dr. R. L. Fowler and stated that Dr. Fowler's attendance at medical society meetings was very regular and he was missed considerably. The president recognized Drs. J. P. Tatum, W. W. Reynolds, and W. Jeff Anderson for their long and outstanding medical service. Each of them made a short talk. Dr. Reynolds stated that if he had to give up his cigarettes to live to be ninety-eight, he would prefer to keep his cigarettes.

LAUDERDALE COUNTY MEDICAL SOCIETY

The Lauderdale County Medical Society met in the dining room of the Lamar Hotel in Meridian in regular monthly meeting, Thursday, April 17 at 7 P.M.

Immediately after the banquet, the meeting was called to order by the president, Dr. T. G. Cleveland, of Meridian, who presided throughout the meeting.

Dr. W. W. Reynolds was host to the medical society and was in charge of the program. There being no old or new business to be presented, the scientific program consisted of a very informative talk by Dr. Oscar S. Bethea, of New Orleans, La. His subject was "Some Considerations in the Diagnosis of Heart Disease." Dr. Bethea's address constituted the entire scientific program. Immediately following discussion of same, the meeting adjourned.

—N. C. Knight, Editor.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

President	Mrs. E. C. Parker	Gulfport
President-elect	Mrs. W. K. Stowers	Natchez
First Vice-President	Mrs. Hugh H. Johnston	Vicksburg
Second Vice-President	Mrs. Augustus Street	Vicksburg
Third Vice-President	Mrs. W. H. Anderson	Booneville
Assistant	Mrs. Stanley A. Hill	Corinth
Fourth Vice-President	Mrs. B. B. Martin, Jr.	Vicksburg
Recording Secretary	Mrs. H. C. Sheffield	Jackson
Treasurer	Mrs. J. D. Simmons	Cleveland
Historian	Mrs. V. B. Philpot	Houston
Parliamentarian	Mrs. C. C. Hightower	Hattiesburg
Research on History of Medicine	Mrs. G. D. Mancill	Indianola
Public Relations	Mrs. John B. Howell	Canton
Public Policy and Legislation	Mrs. F. L. Van Alstine	Jackson
Honorary President	Mrs. Dan J. Williams	Gulfport
Memorial	Mrs. Henry Boswell	Sanatorium
Doctor's Day	Mrs. George Wallace	Gulfport
Exhibits	Mrs. John S. Harter	Sanatorium

Councilors: First District, Mrs. H. L. Cockerham, Gunnison; Second District, Mrs. C. M. Roberts, New Albany; Third District, Mrs. T. H. Rayburn, Pontotoc; Fourth District, Mrs. Paul Brumby, Lexington; Fifth District, Mrs. H. E. Frizell, Vaughn; Sixth District, Mrs. R. L. Simmons, Meridian; Seventh District, Mrs. S. E. Bethea, Jr., Hattiesburg; Eighth District, Mrs. Lucien Gaudet, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point.

Advisory Council: Dr. W. H. Anderson, Booneville; Dr. Augustus Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. John B. Howell, Canton; Dr. F. M. Acree, Greenville.

ACTIVITIES CALENDAR

June—HYGEIA.
July—Accidents.
August—Husband's Checkup.
September—Food Information.
October—Patent Medicines.
November—Jane Todd Crawford.
December—Peace.
January—Colds.
February—Citizenship.
March—Prenatal Care.
April—Cancer.
May—Alcohol.

YOUR PRESIDENT'S MESSAGE

During the past year it has been my pleasure to visit eleven of the thirteen auxiliaries over the state. In addition to the many gracious courtesies which made my widened contacts a happy experience, I obtained much heartening information about the splendid work that is being done throughout the state.

I find that most of the auxiliaries have followed to a great extent the Calendar of Activities outlined by our Advisory Board. Our doctors have been most generous with their time, emphasizing medicine, cancer and tuberculosis. Members have been active in the sale of Tuberculosis Seals, British Relief, Red Cross, Preventorium Fund and the Jane Todd Crawford Memorial. Subscriptions to HYGEIA and the BULLETIN have increased and the interest stimulated promises even better results next year. Through the president-elect, two new auxiliaries have been organized, bringing our total membership to 315. An exhibit of our work of the past year is being prepared by Mrs. John Harter, Sanatorium.

Your president is indebted to her officers for their conscientious and untiring devotion to the work. She realizes how helpless she would have been without their fine coöperation. I don't believe I could have been given a more agreeable and capable group of women with whom to work. One disappointment prevents us from having had our national president with us this year: Due to the illness of her husband, our president, Mrs. V. E. Holcombe, of Charleston, West Virginia, was unable to come to the meeting which had been planned for her in Natchez on April 24. Mrs. Holcombe (neé Miss Helen Davis) spent part of her childhood at Forest Plantation in Natchez, with Mr. and Mrs. George Green, III. Mrs. Stowers had arranged with the Natchez ladies to have a number of delightful courtesies extended the doctors' wives on that date. We shall still look forward to having Mrs. Holcombe visit us, however.

I should like every auxiliary member to feel that I am extending a personal invitation to her to attend the annual meeting in Biloxi, May 13, 14 and 15. Help us make it the best meeting we have ever had. May nothing interfere with your being present at the state meeting!

—LETITIA R. PARKER.

Program of the Eighteenth Annual Convention
WOMAN'S AUXILIARY
TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION
BUENA VISTA HOTEL, BILOXI, MISSISSIPPI
May 13, 14, 15, 1941

Tuesday, May 13—

9:00 A.M. Registration.

2:30 P.M. Executive Board Meeting.

3:30 P.M. Visit to Beauvoir: Home of Jefferson Davis.

4:00 P.M. to 6:00 P.M. Tea at Markham Hotel —Gulfport Medical Auxiliary Hostesses.

Wednesday, May 14—

7:30 A.M. Past-Presidents' Breakfast—Buena Vista Hotel.

9:00 A.M. General Session—Mrs. E. C. Parker, presiding.

Invocation—Rev. Francis Quinn, Biloxi.

In Memoriam—By Mrs. Henry Boswell, Sanatorium.

Address of Welcome—Mrs. W. T. Bolton, Biloxi.

Response—Mrs. W. W. Crawford, Hattiesburg.

Introduction of Honor Guests.

Greetings from Dr. W. H. Anderson, President, and Dr. A. Street, President-Elect, State Medical Association.

Minutes of the Preceding Meeting—Mrs. H. C. Sheffield, Secretary.

1:00 P.M. Luncheon—Guest Speaker—Mrs. J. U. Reeves, Mobile, President-Elect, Woman's Auxiliary, Southern Medical Association.

2:30 P.M. Post Convention Board Meeting—Mrs. W. K. Stowers, presiding.

Boat Ride: Time of departure to be announced.

COAST COUNTIES AUXILIARY

The Members of the Coast Counties Auxiliary held their April meeting at the Markham Hotel for a cancer control forum. Dr. Carl Stingily, radiologist of Meridian, was guest speaker and conductor of the forum. Dr. Cummings McCall, president of the Coast Counties Medical Society, presented Dr. Emma Gay, state commander of the Women's Field Army, and Dr. Gay then introduced Dr. Stingily.

Fifty-three members and guests were present to participate in the forum, featured by motion picture slides and movies to illustrate the discussions. Parts were contributed also by Dr. E. E. Heyer, Dr. N. C. Knight and Dr. L. V. Rush, all of Meridian.

This is the *Last Call for* reservations for the Nineteenth Annual Convention of the Woman's Auxiliary to the American Medical Association which will be held at Hotel Carter in Cleveland, June 2-6. All Cleveland extends a hearty welcome to you!

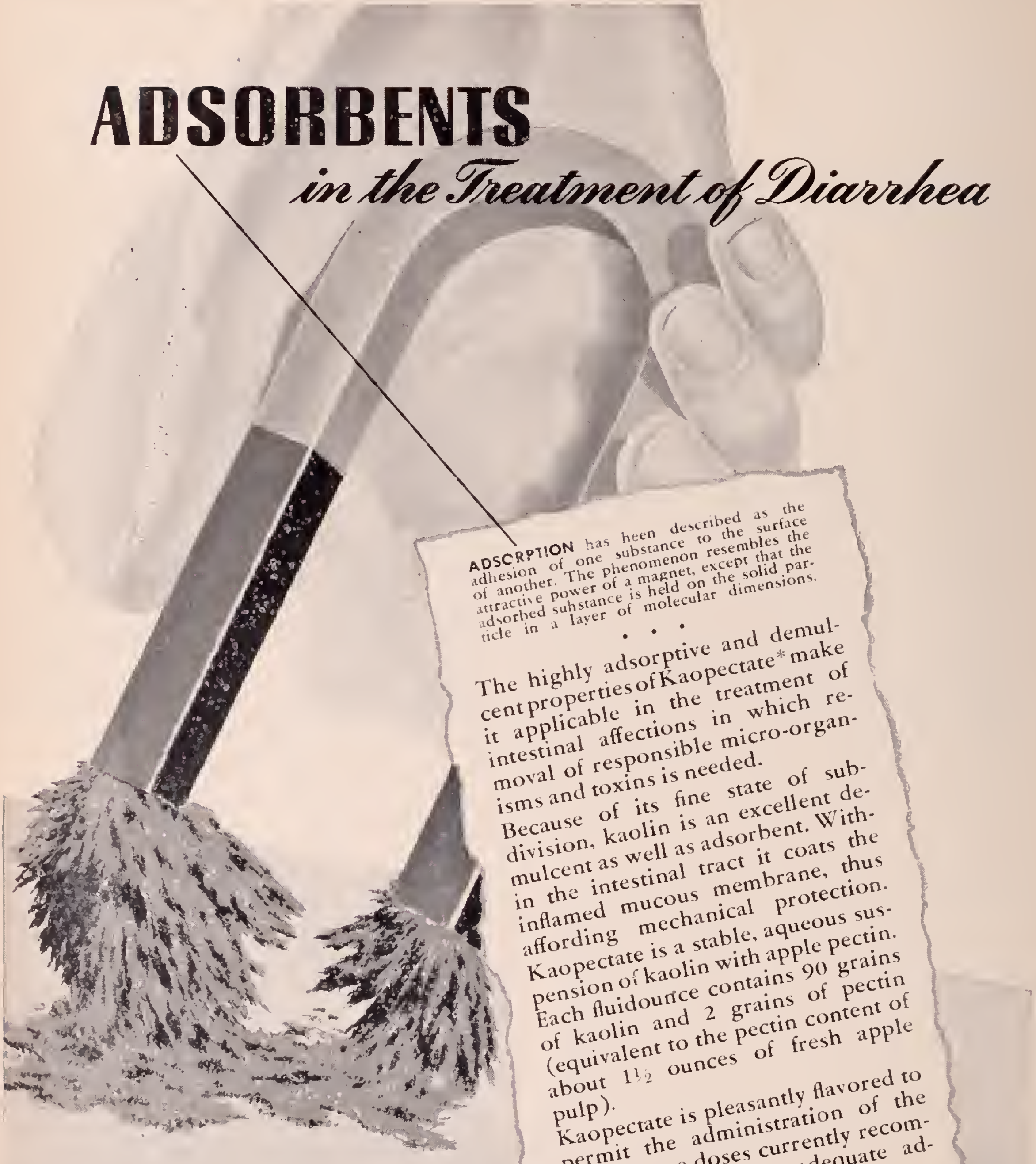
NO ONE DRINKS TO THE HEALTH OF ANOTHER

(This last article under the year's Calendar of Activities is contributed by the editor-in-chief).

A study of alcohol in all of its relations to human affairs should convince any one that it represents one of the heaviest millstones about the neck of our national, economic and domestic security. Legalized whiskey was supposed to be a gesture to democracy. But the consumption of alcohol leads individuals and nations into slavery. No intoxicated nation can win a democratic war, because the consumption of alcohol is incompatible with the machine age in which we live.

It seems now that we have many people who are allergic to alcohol. They have inherited a defective blood-brain barrier. The allergic person often becomes pathologic, his judgment warps, and he does not have the capacity for common sense. The allergic man is he who is likely to drink for an appetite, drink to get warm and drink to get cool, drink before a business deal and drink after it is over. He also drinks to shun a problem that he lacks the power to meet.

A study of motor vehicle deaths led a committee of the A. M. A. to make the statement that, "if a person has .15 of one per cent alcohol in his blood, he is 55 times more likely to have a serious accident driving a car out on the highway than the person who has none. This would mean that about twenty thousand deaths on the highways may be laid at the door of whiskey. This is a serious charge against alcohol. It is believed by many who have observed that one-half the venereal disease, the suicides and the murders can also be traced to whiskey. The cost of whiskey in the United States is a hundred and fifty dollars to every family annually. We may cite the safety measure employed by the railroads, which haul millions of people millions of miles without the loss of a life. For many years their standards have rigidly refused to allow an employee to go on duty if he has taken a drink of whiskey. Business can no longer trust the drinking man. A drinking people can never win a world for democracy. Nor can a drinking profession re-educate and make useful again a drinking clientele. Whiskey lowers mental and physical efficiency, making the whiskey problem one of the great challenges to the medical profession. We must give up whiskey or our civilization. Which shall it be?



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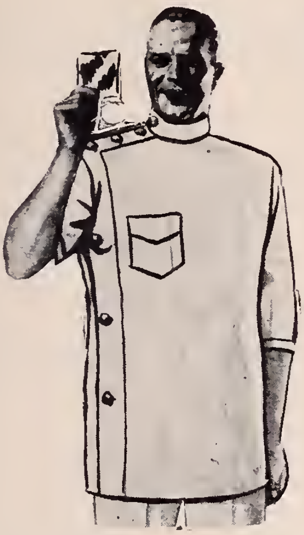

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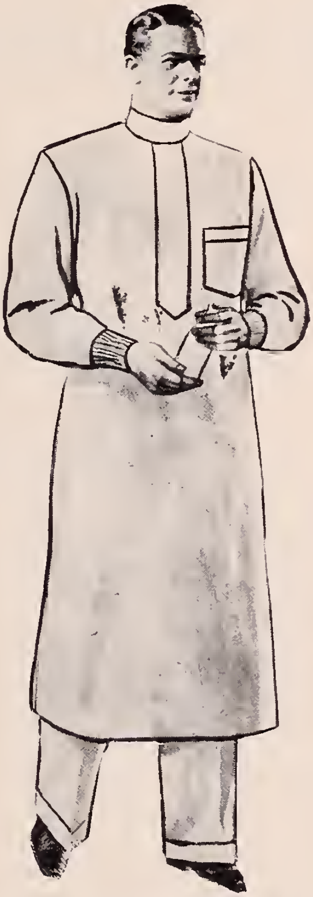

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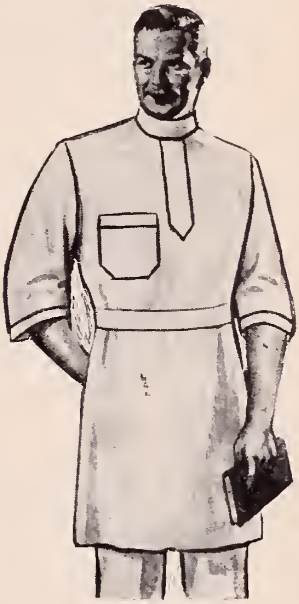

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